The Journal of the American Medical Association

VOL. XXXVI. CHICAGO, ILLINOIS, APRIL 20, 1901. No. 16.

Address.

JULES LEMAIRE

THE FIRST TO RECOGNIZE THE TRUE NATURE OF WOUND INFECTION AND INFLAMMATION, AND THE FIRST TO USE CARBOLIC ACID IN MEDICINE AND SURGERY.*

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Motto: "*Je ne suis pas de cet avis. Les questions de priorité intéressent la moralité publique, parce qu'elles traitent de la propriété scientifique, plus respectable que toute autre propriété, et qu'il importe extremement que l'opinion publique ne s'égare pas sur les véritables auteurs des progrès scientifiques et industriels.*" (*Pasteur, réplique à une attaque de M. de Vergnette-Lamotte, Journal d'Agriculture practique, 18 juillet, 1872.*)

"*On voit que l'illustre inventeur ou au moins demonstrateur des ferments vivants ne partage pas l'opinion de notre savant maître et ami, M. Marchal (de Calvi), qui croit que tous les progrès, toutes les découvertes doivent etre anonymes dans le nouvel ordre social, et que le sentiment intime d' avoir fait quelque chose de bien doit etre la seule récompense des inventeurs et de tous les bienfaiteurs de l'humanité.*" (*Déclat, Traité de l'acide phénique, Paris, 1874, p. 896).*

Prat: L'acide phénique à l'Académie des sciences. Réclamation de priorité. Simples réflexions.

"*Les questions de priorité, a-t-on dit quelque part, n'ont qu'un intéret médiocre. Nous ne sommes pas de cet avis. A la vérité, qu'un inventeur s'appelle A ou B, cela est de mince importance pour la science pure; mais il importe au contraire beaucoup, au point de vue de la moralité et de la justice, de rendre à chacun ce qui lui est du.*" (*La France Médicale, 1865, xvi, 86).*

"*M. Pasteur a fait des expériences nouvelles, j'en ai fait moi-meme un assez grand nombre; nous avons suivi chacun une route différente qui nous a conduits à des résultats tels, qu'aujourdhui la question de la nature des ferments me parait résolue. Ce que je désire, c'est de préciser les dates, pour qu'il soit possible (si on veut le faire un jour) de rapporter à chacun de nous la part qu'il a prise à la solution de cette importante question.*" (*Lemaire: Paris, Feb. 25, 1862.*)

I think that I observe a growing tendency to speak with disdain and with a fine assumption of indifference regarding questions of contemporary priority, and this feeling, as nearly as I can trace it to its source, seems to originate in the innate natural objection of scientific workers to become partisans to any discussion which involves the sacrifice of time in determining its merits, often too lying in a field of research for which they have little inclination, with the additional prospect that the debate may sooner or later become acrimoniously personal.

It is always difficult, in cases of conflicting claims, to form a correct judgment, and the task is sure to be a disagreeable one. While I may be willing to go to great pains to set my own claims in their proper light before the public,, I do not want to be dragged incontinently into the quarrels of other people with whom I have no close personal affiliations.

It is for such reasons, I think, that most questions of priority are vaguely settled on purely national and personal lines, and yet such an attitude is unjust and faulty in the extreme, for all history is but a record of the sequence of events, of acts and discoveries in which questions of priority of one sort or another continually arise, and if the contemporary historian is timid and does not set these things aright, how is he of later date, with less available information, to do justice to his task and utter the naked truth?

Contemporary history is often the only real history after all, for he who writes at a later date, with perhaps pardonable bias, often neglects many of the contributing factors in an event, when with more dramatic than scientific instinct he sets a single lay figure before his readers, to whom he ascribes the credit of a movement due in many instances to a coterie of coworkers.

If our ancestors could but read the historical writings of their posterity, I feel sure that many a bitter cry of injustice would be raised, and many a dissertation be penned to set matters in their true light.

We suffer to-day not so much from an actual falsification of our records as from a theatrical tendency to exaggerate and to distort and to present facts out of due proportion. A great name in this way often has the misfortune of unwittingly crowding out of recognition some others only a little less great also deserving recognition.

HISTORIC GENESIS OF ANTISEPSIS.

With this brief preliminary I shall proceed at once to a consideration of the historical genesis of the antiseptic idea, and I trust that I may now, after a lapse of more than a generation, enter upon this little bit of research untrammelled by national prejudice or the bias of preconceived ideas rooted in our education.

It is a natural impulse and, I think, a good one, to pause after rounding such a cycle of time as is represented by a century, to review our progress and to question our opinions, as well as to set right matters of history and apportion the laurels to their rightful owners; and it is for this reason that I have ventured to present this great question of the discovery of antisepsis.

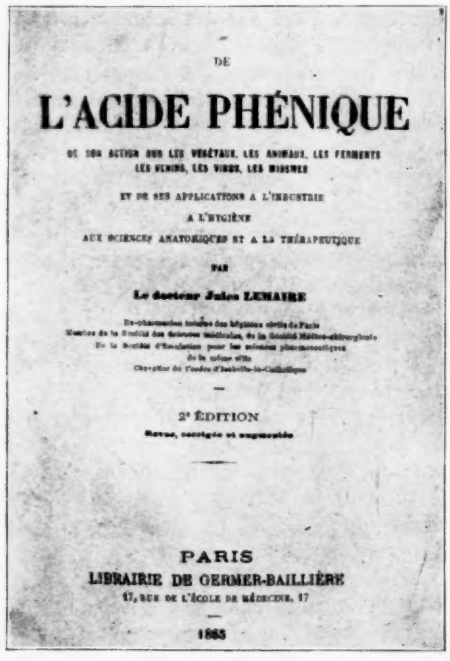
If I were asked what I consider the greatest acquisition of the past century, I should unhesitatingly reply: the introduction of antisepsis into surgery; for what are all the gross material achievements of our race in the way of facilities of transportation and communication, the enormous gains in creature comforts bestowed by the great century of inventions; what is progress of any sort compared with the relief from suffering and the years added to life by the bolder surgery of to-day? They are but as the dust in the balance in comparison

* Delivered before the Cincinnati Academy of Medicine.

to him who rightly appreciates the sacredness of a single human life.

I shall not pause to dwell upon the familiar picture of the enormous differences between the surgery of fifty years ago and that of the end of the century, further than to call to mind that the new principle of antisepsis, aside from restricting active operative surgery in certain fields, such as compound fractures, and opening up a great new surgical domain in the abdomen, has probably multiplied the sum-total of the surgical work done not less than thirty-fold.

Please bear in mind these principles, which shall govern our inquiry: 1. We are about to enter upon a purely historical research. 2. The only indisputable evidence at our command is to be found in printed documents. 3. There are, fortunately, no claims and counterclaims of priority which can not be settled by these documents. 4. It is no discredit to one recognized inventor or discoverer to have been anticipated by another in many of the important details of his invention or discovery, provided he has not profited by such labors without due acknowledgement. 5. As a corollary to


DE

L'ACIDE PHÉNIQUE

DE SON ACTION SUR LES VÉGÉTAUX, LES ANIMAUX, LES FERMENTS
LES VENINS, LES VIRUS, LES MIASMES

ET DE SES APPLICATIONS A L'INDUSTRIE
A L'HYGIÈNE
AUX SCIENCES ANATOMIQUES ET A LA THÉRAPEUTIQUE

PAR

Le docteur Jules LEMAIRE

2e ÉDITION

PARIS
LIBRAIRIE DE GERMER-BAILLIÈRE
17, RUE DE L'ÉCOLE DE MÉDECINE, 17

1865

this, we may agree equally to honor, or to honor in different degrees, a number of men whose faithful labors have conspired to bring about any condition beneficial to the human race. 6. In forming such an estimate we must in each individual case take into account the clearness of presentation, the persistence indicative of earnest conviction, the sum-total of publications, as well as what is known of the general course of the man's life in relation to the question in hand. 7. I might add that we can never arrive at the absolute truth in any case.

In the year 1863 Dr. Jules Lemaire, of Paris, published a comprehensive work on phenic (carbolic) acid, which was so widely read that in sixteen months no more copies were left in the bookstores, and there were calls for over two hundred copies within a period of five months; these could not be supplied. This interest Lemaire modestly says was in no way due to his own name, which was but little known, but to the real public interest in the subject. It is sufficient for my present purpose to draw from the second enlarged edition published in 1865, some five years after Lemaire's first work, but still nearly two years before any publication upon this subject in any other country. This work is entitled: "De l'acide phénique de son action sur les végétaux, les animaux, les ferments, les venins, les virus, les miasmas et de ses applications à l'industrie, à l'hygiène, aux sciences anatomiques et à la thérapeutique" (2. Edition).

It forms a volume of 754 pages, admirably written and handling the subject in an exhaustive and scientific spirit. The first part—30 pages—is devoted to the history and the uses of coal-tar, from which carbolic acid is derived. Chapter 1 traces the history and properties of carbolic acid already recognized; Chapter 2 is a study of the action of carbolic acid upon vegetables and animals; Chapter 3 is devoted to its action upon fermentation in living and in dead tissues; Chapters 4 and 5, to its practical uses in the destruction of parasites and microphytes; Chapter 6, to its application to hygiene and as a disinfectant; Chapter 7, to its use in the anatomical sciences and as a preservative; Chapter 8, to its therapeutic uses, in preserving wounds and pus from fermentation, in diseases of the skin; its internal use; Chapter 9, to various pharmaceutical formulæ containing carbolic acid. An appendix contains some valuable documents relative to priority.

I shall make no apology, in a matter of such great importance, for reviewing somewhat carefully some of the important contents of several of these chapters, after which, I trust that we may draw the irresistible conclusion that we have here the privilege of doing homage to one of the greatest names in the annals of medical science, and that henceforth the name of Lemaire will be duly invested with that respect and honor which are accorded to the few whom we reckon great benefactors of the race.

We observe at the very outset, as we read the introduction to this work, that a great mind will often discover in a little matter, which has long been a subject of common interest and attention without leading to any conclusion, food for serious reflection, and will ultimately, by the investigation and analysis of ordinary phenomena, evolve laws of far-reaching significance.

Early Investigations in Coal-tar.—Lemaire's fruitful studies began with the use of coal-tar, whose antiseptic and disinfectant properties had been noted as early as 1815, 1833 and 1837. In 1844 Bayard was crowned by the "Société d'Encouragement" for a powder of coal-tar, plaster, sulphate of iron and clay, which he used as a disinfectant for hygienic purposes. In 1857 Boboeuf took out a patent on the separation of the acid oils of coal-tar, by saponification, which he then applied to the same uses for which the plaster mixture had been recommended, only in a more convenient and manageable form. In 1859 Demeaux applied a powder of coal-tar and plaster to the disinfection of wounds and aroused great interest in a report upon its use in the hospitals of Paris and in the army of Italy.

This event and this epoch alone are worthy of the careful study of the student of history, so fully did both the profession and the public realize the importance of any means of limiting the awful ravages of infection so rampant wherever wounds were treated.

The great difficulty with this form of coal-tar was that the solidification of the plaster in the mixture rendered it so difficult to apply; in order to form a coarse powder it needed 97 to 98 parts of the dry excipient, so that the mixture contained not more than 2 or 3 per cent. of coal-tar, the active agent. The use of

such a mixture in wounds was also accompanied by the utmost inconvenience from the solidification of the plaster. The trouble was then that, as far as surgery is concerned, the powder was practically useless, although its disinfecting power was generally recognized. Coal-tar was at that time generally believed to be totally insoluble in water.

Fatty bodies which mixed admirably with coal-tar materially altered its properties, as demonstrated by Lemaire, and its natural solvents, alcohol, ether, acetic acid, and volatile oils, forbid its use on wounds, besides costing too much for use on any extensive scale for disinfecting.

Work of Le Beuf.—One valuable means of utilizing coal-tar, lying within easy reach, had been overlooked, and that was an emulsion of saponized coal-tar. In 1850 Ferdinand Le Beuf, of Bayonne, a pharmacist, whose name ought never to be forgotten, presented to the French Academy of Sciences a work in which he established the fact that: "All substances insoluble in water but soluble in alcohol, upon the addition of saponine to their alcoholic solution at once became minutely divided and form stable emulsions." Le Beuf consulted Lemaire as to whether coal-tar treated in this way still retained its notable properties as a disinfectant, and Lemaire undertook the investigation which led him so far afield and proved so fruitful to science and humanity. This preparation is made by taking bark of quillaya saponaria, 2 kil., alcohol (90 per cent.), 8 liters, heating to the boiling point and filtering. This preparation, called the alcoholic tincture of saponine, is really a tincture of quillaya. The saponized tincture of coal-tar is then made by taking: Coal-tar, 1000 gr.; tincture of quillaya, 2400 gr., letting it stand for eight days in tepid water, being stirred from time to time and finally filtered. Four parts of water added to this last preparation form an immediate and stable emulsion. This mixture, so widely and successfully used by Lemaire, and freely given to the profession, is wonderfully like a preparation in use to-day and known as "creoline"—verbum sapienti sat. It is interesting to note and pleasant to comment upon the generosity of Le Beuf[1] in giving full publicity to his formula.

Use of Saponized Coal-tar.—I quote Lemaire's first experience with the new mixture, saponized coal-tar, as it well deserves to become historic. It was in August, 1859; the patient had a large gangrenous wound situated in the gluteal fold. The results of Lemaire's saponized coal-tar application were so extraordinary that he and Le Beuf promptly presented a preliminary note to the Academy, Sept. 8, 1859. On the 20th of the same month Lemaire wrote a second explanatory note enlarging upon the first and presenting new facts, and in this note he says: "I urged all the advantages surgery would enjoy from this preparation"—*Dans cette note, je pressentais tous les advantages que la chirurgie pourrait obtenir de cette préparation.*

The saponized coal-tar was then widely used, and reported upon so favorably that at the request of several surgeons it was authorized for the civil hospitals of Paris, April 25, 1862. The French Academy, taking cognizance of its extensive employment, charged the great surgeon Velpeau to experiment and report upon its use, and it is interesting to note that when the greatest living surgeon came in contact with that which contained *in posse* the greatest discovery of the century, he failed to appreciate the situation, and treated the matter, if I may read between the lines of his report, with a somewhat impatient disdain, as a rather impertinent intrusion upon his own peculiar prerogatives. Had Velpeau, with simple humility, the noblest characteristic of a great mind, approached the question without bias, bringing to bear upon it his great surgical genius, with his abundant clinical material and powers of investigation, who can tell what would have been the result to French surgery.

Coal-tar and Disinfection.—How curious in the light of all that has been wrought in surgery during the past forty years, does this conclusion of the great master sound: "Whether it is phenic acid, or even rosolic acid, brunolic, or aniline or pisoline of coal-tar which is the disinfectant, it amounts to but little in reality, science will declare it some day"—*Que ce soit l'acide phénique ou bien l'acide rosolique, brunolique, l'aniline, ou la picoline du coal-tar qui disinfecte, peu importe au fond, la science le dira un jour.*[2]

We find it difficult to realize, even after the lapse of so short a period as one generation, that one of the notable results of the use of saponized coal-tar in the various hospitals was the disappearance of insects, maggots, flies, roaches, and bedbugs. So accustomed had they grown to these pests that some surgeons, at no remote date even, thought it an advantage to let the maggots multiply in a wound.

Granted then, with Lemaire, that coal-tar has such a remarkable effect upon wounds, the next step in his inquiry was to meet the objection that the coal-tar does not disinfect, but simply disguises the odor, by substituting another less disagreeable (Chevreul), and this is his conclusion: "Coal-tar does not disinfect like chlorin and the salts of zinc and of iron, which transform the infected materials by a double decomposition or otherwise into inodorous bodies; it exercises no chemical action whatever on odorous gases, but acts upon the cause which produces these gases, that is to say upon the ferments. The odor is masked at first it is true, but as the cause of the odor is suddenly destroyed by the arrest of fermentation at the moment of the mixture, the odor is no longer produced."

In 1859 and 1860, some animals, in an advanced state of putrefaction, were injected through the arterial system with saponized coal-tar, and as a consequence they became dry and kept perfectly in the open air, without further alteration. He says: "To solve this question I studied the ferments. Numerous experiences in 1860 taught me that saponized coal-tar destroys the microphytes and microzoa, and that these little beings could not develop in its presence." "I found it then necessary to seek some other explanation than that which accords to oxygen the rôle of the ferment in albuminoid materials." "The ferments are living beings, and in this manner all the remarkable facts I have observed can be explained." The action of coal-tar on the wounds has led me to a new theory as to the formation of pus." "I have been able with the coal-tar to arrest and to reproduce at will the formation of pus just as I have been able to arrest and reproduce fermentation and germination." "I affirm that to-day with saponized coal-tar it is possible to enormously reduce the formation of pus and to hinder its putrid changes. To make this result known to men of capacity is to tell them that it will be a great benefaction to humanity. Purulent infection, which I do not confound with resorption, appears

1. Lemaire: Du Coal-tar Saponiné, etc., p. 6, Paris, 1860.

2. Boboeuf: Mémoire adressé à l'Académie des Sciences, sur l'acide phénique, Paris, 1865, p. 10.

to me to be the result of the action of the ferment of pus upon the economy."

Lemaire's next inquiry is whether coal-tar owes its disinfectant property to a single principle in it, and this he answers after numerous experiments with its various constituents, by concluding that the carbolic acid isolated is much more energetic than the coal-tar.

With this remarkable and learned introduction begins the book upon carbolic acid, whose properties as investigated by Lemaire we will now study.

PROPERTIES OF CARBOLIC ACID.

I have not time to dwell upon the interesting history of carbolic acid, a history full of valuable hints as to the place it was destined to occupy in surgery. Lemaire's attention was next directed to the effect of aqueous solutions of carbolic acid upon vegetables, grain and germination, including the molds. He states that a minute quantity of carbolic acid is sufficient to destroy the following: microzoa, spermatozoa, bacteria, vibrios, spirilla, amoebæ, monads, euglenia, paramecia, rotifers, and vorticellæ. He further experimented with lumbricoid worms and earth worms, as well as twenty-five different families of articulates, and slugs and snails and eight different kinds of vertebrates, including fish, frogs, bull-heads, salamanders, sparrows, mice, horses, dogs and man.

Action on the Skin.—He found that when strong acid was applied to the skin of dogs and horses, it caused a dry scar to form, which separated in ten or twelve days. The parts below the scar were slightly moist, but did not suppurate or show any trace of true inflammation. "The result of all I have said is to show that carbolic acid has a very energetic action on the skin; that the pure acid produces a burn of the third degree which is not accompanied by suppuration. These facts give great support to my theories to the formation of pus."

He observed that the action of alcohol is to attenuate that of the acid, and remarked that he carried on his arm the spots which were made two years before, by the acid, while the parts touched with an alcoholic mixture of equal parts showed but faint traces of its action. This result is an important one for practitioners, as they would in this way be able to avoid tatooing their patients. He noted that olive-oil containing 5 per cent. carbolic acid does not prevent the putrefaction of meat.

Carbolic Acid and Ferments.—The next and most important inquiry is that of Chapter 3, as to the action of carbolic acid on ferments, venoms, virus and miasms. Its action on ferments, which form in materials abandoned by life, is shown by several interesting experiments. A fresh egg was dissolved in 200 grams of water and put in a jar coated on the inside with a thin layer of carbolic acid. The jar was covered with parchment and left for two months at a temperature of 18 to 20 C., when the egg was found fresh. Fresh meat was tried in the same way and three experiments out of six succeeded. In one of them the meat kept for six months, and in two others it presented the rosy appearance of fresh meat at the end of eight months. Two sparrows were kept in the same way, and at the end of the month one of them presented no trace of any change—the tissues were as fresh and the feathers as well fixed as on the first day; one of them had a putrid odor which Lemaire said showed there was communication with the air, due to volatilization of the carbolic acid which then disappeared when the organic material began to ferment anew.

By applying the carbolic acid test, Lemaire was then able to distinguish between true fermentations due to living beings and so-called fermentations, such as the hectic, synapic, myrosic and glucosic, which were due purely to chemical changes and remained uninfluenced by the carbolic acid.

Venoms, our learned author decided, after making some experiments, are not analogous to ferments because the action of the venom is immediate, without any period of incubation; venoms are rather chemical agents comparable to diastase and synaptase. A virus, however, of which vaccin may be taken as a type, Lemaire decided to be essentially different from a venom. There can be, he said, no doubt as to the nature of cadaveric virus; it is but the product of fermentation and in consequence contains living organisms. As to those, however, which form during life, he noted these significant facts: there is always a period of incubation, there is development and indefinite multiplication, properties belonging to living ferments. A virus can be kept a long time and still preserve its reproductive character. When inoculated, a virus reproduces itself exactly as the seed of grain reproduces its own species. The conditions most favorable to a virus are also those most favorable to a ferment. All these properties leave no doubt but that the virus is a living organism. And this idea of a pathology due to living organisms—*pathologie animée*—was held two centuries ago by Athanasius Kircher, who held that contagious diseases were propagated by animalcules, worms of species differing with the different maladies.[3]

In evidence of this new view he cites the fact that vibrios have been found in the pus taken from a chancre, as well as that taken from a balanitis. Micro-organisms have also been found in the pus of a vaginitis. Microphytes have been found in the pus of cancer, by Wagner, and Lemaire himself demonstrated the presence of living structures in the pus of anthrax. Bacteria have been found in the pus of malignant pustule. So we see that independently of the characteristics of living organisms possessed by pus, we can now add that animalcules have been found in it and that the virus containing them produces its usual effects as well as an incalculable number of animalcules.

The infection produces its usual effect since the reproduction and the multiplication of the animalcules is the result. "In my new theory as to the formation of pus, I have compared its globules to those one sees in the yeast of beer, and I have accorded them an analogous rôle. I have demonstrated that the appearance of these globules coincides with certain chemical phenomena, just as in the case of the infusoria in fermentations. After using coal-tar the new pus formed contains nothing more than serum. Since then we find in pus (and when I say pus it is just the same as though I said virus, since the viruses are but a species of pus) microphytes and microzoa, and since these humors always reproduce their own species, and since they have in the bodies of men and animals a period of incubation, of development, and multiply to incalculable proportions, it is impossible not to recognize in these characters the attributes of life."

This is the discovery which overthrew the theories of Liebig, of whom Lemaire says: "If Liebig had been a little less of a chemist it is probable he would have discovered the real nature of the ferments, for albuminous materials are indispensable to spontaneous fermentation.

3. V. Ath. Kircher Scrutinium physico-medicum contagiosæ luis quæ pestis dicitur, Romæ, 1658.

The communicated movement also exists. Only in the motor has he deceived himself and *that is life*, and this is the reason why death arrests all."

In conclusion, I can not pause to dwell upon the innumerable uses Lemaire proposed to make of carbolic acid to prevent all kinds of diseases due to fermentation, including all the infectious diseases, miasms and malaria. I have brought before you sufficient to demonstrate that he showed a wonderful grasp of the greatest medical problems of the generation which succeeded his period of activity. His theories regarding all these diseases have been established, and in many cases the specific organisms have been identified. We have, after all, but been walking in the path marked out for us by Lemaire. In surgery he established the great principle of a living septic agent in putrefying and suppurating wounds, and he laid the foundation stone of successful treatment.

Lister's first publication appeared in the *Lancet*, in March, 1867, p. 326, two years later, some seven years after Lemaire's first observations, and was entitled: "On a New Method of Treating Compound Fractures, Abscess, etc., with Observations on the Conditions of Suppuration." These are his closing remarks on this head, under the caption, "The Use of Carbolic Acid to Preserve Wounds and Pus from Fermentation:" "I have dwelt at sufficient length on the changes which solutions of continuity undergo on contact with the air. I will not revert to it. It is sufficient to recall the fact that all these disorders are the work of living ferments. To protect the solution of continuity from fermentation it is sufficient to cover them from the start with compresses constantly soaked with carbolized water. Two parts in a thousand are sufficient, except when the heat is great, then the strength should be five in a thousand. It is necessary to avoid the use of glycerin or fatty bodies as excipients for the carbolic acid."

The furor for carbolic acid culminated in an earnest protest by Franz Pfiffner,[4] under the title: "Die Carbofieber-Pandemie," where he quotes Berger, who uttered these prophetic words: *"Geht man in seinen Aufforderungen zu weit, so laeuft das Mittel Gefahr, ebenso rasch vom Schauplatz der Aerztlichen Thaetigkeit wieder zu verschwinden, wie es so vielen andern Mitteln auf Grund kritikloser Empfehlungen ergangen ist." Diese Goldenen Worte lassen sie mich auch fuer das Carbol in Anspruch nehmen.*

I think the use of carbolic acid administered as a germicide has steadily decreased since the following words were written:—*Meine Herren! Ich waere nun mit meinem Thema, die Ohnmacht einer internen Carboltherapie gegen Infectionskrankheiten darzuthun, zu Ende. Es sei drum nur anghangsweise des Carbols gegen mono- und polyarticulaeren Rheumatismus erwaehnt. Kunze hat einige brillante Erfolge von dieser Behandlung notirt. A priori bedaure ich, dass es gerade diese Krankheit sein muss, die dem Carbol zu weiterer Beruehmtheit verhelfen soll. Dieses schwergepruefte Kind unserer Sorgen ist schon durch so manches Mittel curirt worden, dass die neue Entdeckung fast ueberfluessig erscheint. Chinin hat geholfen, Bleizucker hat geholfen, Jodkali, Salpeter, hydropatische Einwicklung, Propylamin—Alles, Alles hat geholfen; Und mit welcher Emphase wurden alle diese Mittel zu ihrer Zeit gepriesen! Alle hat der Orkus wieder verschlungen. Wird es auch dem Carbol so ergehen? Bill hat bereits in dem American Journal berichtet, das er von Carbol bei Rh. acut. nicht den geringsten Erfolg beobachtet habe.*

CONCLUSIONS.

What shall I say in conclusion? Carbolic acid, whether to our loss or to our gain, has almost disappeared from our surgical armamentarium, like Sims's silver wire suture. Had it remained it would have served as a golden thread on which to string such a chaplet of pearls as the names of Le Beuf, Lemaire, Lister, and others in America and Germany, who were closely identified with the evolution of the great underlying principle.

But carbolic acid is gone, and in its place we possess that which is of far more value—a great principle, the antiseptic principle, to be maintained by any efficient means whatever, whether mechanical, or chemical, whether by soap and water and the scrubbing brush, by dint of force, or by an electric current or by steam, boiling water or the corrosive chlorid of mercury, or what not. The smaller mind regrets the universal panacea in a shibboleth, a drug; the broader horizon bounds the principle far wider in its applicability, and available under all conditions, at all times.

Let us, like the great Lemaire, in the midst of the apparently simple things which surround us, ever seek patiently for the great underlying truths, firmly convinced that no fact stands single and isolated, but every phenomenon is but a link in a great chain, or rather a thread in a great network in organic unison with a great whole, and those men are accounted great who with a wider comprehension and a wise induction look past the tiny present fact out toward the infinite, whither they journey so as to bring home to their fellows some of that rich store which lies ready at hand within the reach of every man who has the will to pursue his aim with a single eye.

In this drama, which thus figures in the confines of time as the greatest episode in the history of surgery, and conspires for the first time in the centuries with the cellular pathology of Virchow, to make surgery no less a science than an art; in this drama, I say, two great names are left, as heritages, representatives of nations the greatest of our modern civilization. England, the first to obtain the recognition of the world, holds the name of Lister, who, justly honored by his queen, and venerated by his countrymen, will ever live as her greatest surgeon. With indefatigable zeal, with calm judgment, dispassionate as one who has a great object before him, Lister steadily strode toward his great goal, and there he stands on the pinnacle of success, a hero and an object of emulation to surgeons of every generation.

France also claims a great man, pre-eminent and a model as a scientific investigator. One who without the stimulus of applause and appreciation, but conscious of the greatness of his aim, with wonderful thoroughness and patience in detail caught a small, and to all but him insignificant, clue and traced it until he cleared up and established the greatest facts ever known in medicine or surgery.

What matters the lack of timely recognition, to such a mind, of applause, or of medals bestowed? Who can give honor to such a man? Nay, it is he, who, by his unassuming steadfast devotion to one great aim, has bequeathed us this heritage and honors us who remain with an undying example.

I can not do better than close with Lemaire's[5] own

4. Correspondenzblatt f. Schweizer Aerzte, Basel, 1875, p. 6.

5. Considérations sur la rôle des Infusoires et des Matières Albuminoides dans la Fermentation, la germination et la féconda-tion.

words: *J'ai l'espoir aue l'Academie voudra bien tenir compte que Je ne suis qu'un simple ouvrier qui apporte des matériaux pour construire un édifice que les architects plus habiles que moi termineront.*

Original Articles.

TRACHELOPLASTY.

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The Normal and Pathologic Significance of the Cervix Uteri.—Thirty years of progress and research in medical science have not shaken materially the theory of Montrose Pallen, who, in 1867, in a prize essay read before the AMERICAN MEDICAL ASSOCIATION, enunciated these propositions: 1. Menstruation, irregular in its character, is always coincident with uterine disease. 2. All uterine abnormalities tend to a deformity of the organ, either in its neck or in its body, or in both. "The healthy functioning of any organism necessitates a healthy condition for its performance," and, "no unhealthy cause can produce healthy effects; therefore, from a uterus abnormal can no healthy menstrual flux proceed;" and whereas he later qualified these statements by saying that "irregular menstruation may depend upon systemic causes wherein the uterine disease is but functional and symptomatic," we ourselves know that these are the exceptions and that the great majority of our cases are of the kind that proves the rule. Even when the cause is systemic, too often its persistence leads to a state of chronic functional disturbance of the uterine system, and we have a condition calling for local investigation and treatment.

At the time Pallen wrote, lesions of the cervix uteri, such as lacerations, malformations and stenosis, were among the most prolific causes of gynecic disease, and many operations and instruments were devised for their correction. Since then there has been great advance in gynecology and obstetrics, and in prophylactic medicine, with the result that many of the factors which brought about these conditions of the cervix have been eliminated from modern life, and the pelvic organs of woman have a better outlook during the developmental period of childhood and puberty, and are more judiciously conserved during childbirth and the puerperium. At the same time, there is still to be found in the faulty methods of education, dress and diet, careless midwifery, and the "strenuous life," too much cause for malnutrition, mal-development, infections and traumatism of the genital tract. Take, for example, the cervix, a delicate organ, whose function is to soften and dilate during menstruation and copulation, to undergo easy and natural changes during pregnancy and labor; too often it is found instead contracted and resistant, setting up a barrier to healthy menstruation, becoming a storehouse of infectious germs, and giving rise to a long train of obstinate evils. Even in a uterus which seems to have a fairly free outlet at the cervix, the hyperemia which accompanies the monthly molimen may bring the cervical walls so closely in apposition that the flow is materially retarded and the secretions more or less retained. Retention of the secretions gives rise to an elaborate sequence of allied diseases, such as endometritis, salpingitis, oöphoritis, etc.

Importance of Cervical Function.—When we have under observation the sufferer from chronic metritis, with her full allotment of general and special ills, her dyspepsia, neuralgia, headache, backache, anemia, nervous symptoms and very natural mental depression, we can not but be convinced of the importance of a function whose disturbance has resulted so disastrously. We realize also that our work should be directed to the one end of re-establishing and maintaining a condition of the tissues which shall permit the regular and normal functioning of this organ.

In the milder cases we may choose between a prolonged course of routine, palliative treatment, and the more radical surgical procedures. In the graver, where there has been extension to the tubes and ovaries, salpingo-oöphorectomy, ovariotomy, or hysterectomy may become necessary to remove the local effects of disease, but not always with hope of bringing back a normal degree of health in a constitution injured and disturbed by long presence of diseased conditions.

Improved Technique in Operating.—In selecting a method of surgical repair of the cervix uteri, we should remember that that is most excellent which requires least preparation and after-treatment, and which exacts least in the way of time and patience from patient and physician. And here let me remark that there is a reaction against the tedium of routine local treatment that bids fair, like all reactions, to go almost too far and abrogate it altogether. It is certainly a detriment to the average patient to be subjugated to prolonged topical treatment. It has a tendency to establish the habit of invalidism, and to fix the attention inward, which is not a healthy stimulus to recuperation. I have for some years sought to do operative work of such a character that as much as possible may be accomplished at one sitting, and the patient led to expect prompt recovery and encouraged to consider herself free from bondage to the gynecologic chair. My results have so far been satisfactory. Though my manner of operating differs materially from any so far described it possesses

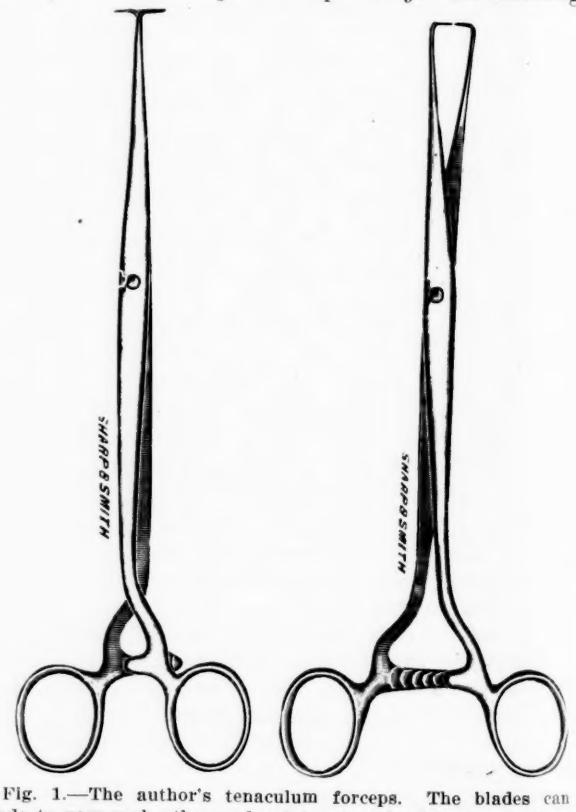

Fig. 1.—The author's tenaculum forceps. The blades can be made to pass each other and point outward without unlocking.

certain advantages which I hope will commend themselves in comparison with existing modes. We have seen the passing or reconstruction of the older methods within very recent times, but as yet there is no unity in choice of technique, and this lack of agreement perhaps lays us open to the sweeping criticism of Dr. von Ramdohr, who remarked that "as long as there are twenty-five methods of doing a thing none of them is good." This has only a measure of truth in it for the progress of surgery is marked by the passing of modification after modification of good methods, and the road still leads on to perfection.

Emmet himself—whose brilliant former work seemed so nearly the final achievement—has so far abandoned his famous operation for laceration of the cervix, that he limits its performance to cases which scarcely exist in modern practice, saying that, "with but few exceptions amputation is the proper means to employ . . . for relief of pathologic laceration of the cervix as it is now met with."

There can be no dissenting from this proposition today, although it may not be out of place to note some of the views of recent writers on amputation as it is generally performed. Early in the history of the operation Pauly is quoted as saying, "Of all surgical operations, the excision of the neck of the womb has hitherto

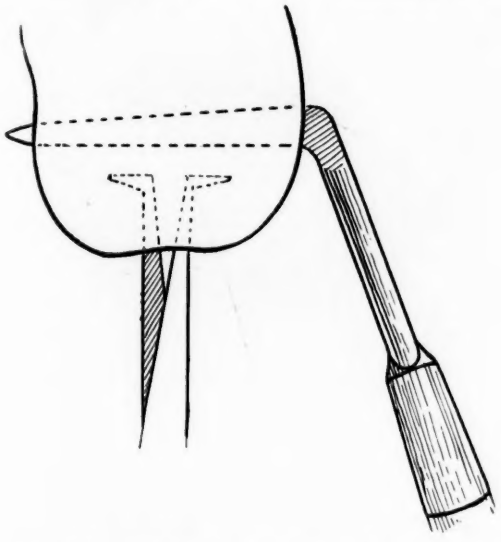

Fig. 2 a.—Cervix transfixed preparatory to making flap: forceps readjusted within cervix.

been the most murderous." Dr. A. Palmer Dudley, of New York, objects to the prevailing technique, that is, the older method of Schroeder, Emmet, Pozzi, and others, on the ground that, "in closing the womb one is very apt to narrow the canal to the extent of obstructing the escape of the normal discharges from the uterus, thereby injuring the woman instead of benefiting her. Many can recall cases in which, before operating for laceration of the cervix they could recognize no disease of the uterine appendages, while afterward disease developed. Why? Simply because in repairing the cervix they closed it, prevented the normal discharge from the uterus, induced continual passive congestion of the endometrium and the disease then traveled up the tubes."

Hegar and Schwartz claim that the Sims method allows blood and serum to collect behind the sutures, and Thornburn considers the use of stitches unnecessary.

The "American Text-Book of Gynecology" says of amputation by the galvanocautery, which is still used by some, that its only commending feature is its bloodlessness. "Confidence can not be placed in it and it is therefore illegitimate."

The objection to removal of diseased cervical tissue by the curette is that in this organ, whose mucous membrane differs from that of the uterus in essential particulars, chronic inflammation causes a dense, firm tissue with deep glandular involvement which only a sharp curette thoroughly used can remove. Such removal is apt to result in constriction of the canal amounting to a severe stenosis or even atresia unless followed by tedious and objectionable after-treatment.

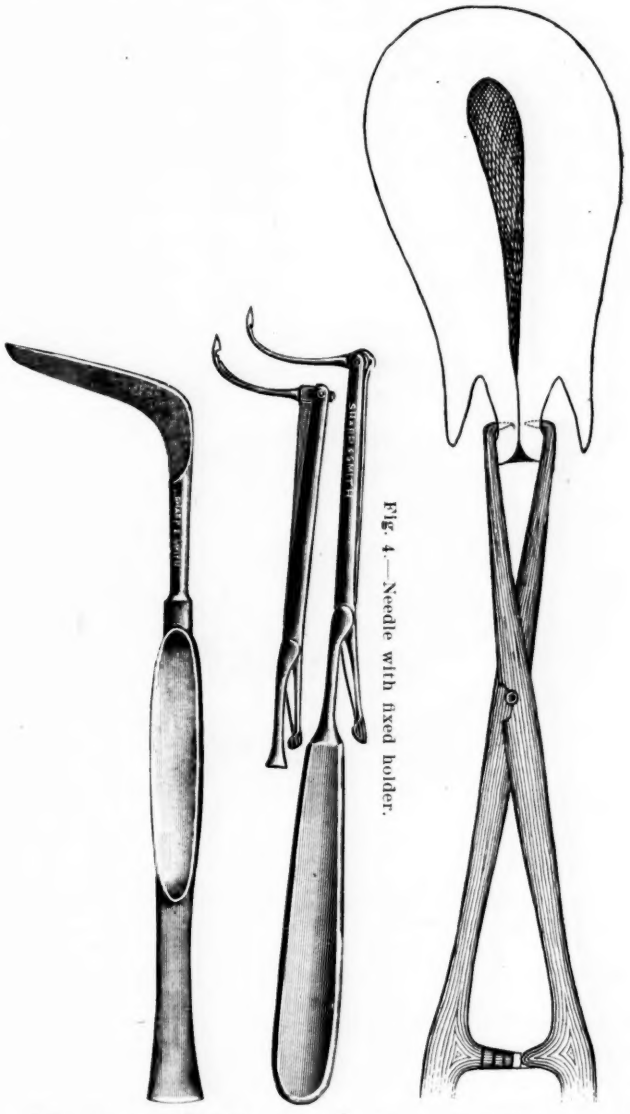

Fig. 4.—Needle with fixed holder.

Fig. 2 b.—Right-angled or Tracheloplasty knife.

Fig. 3.—Formation of flaps. Plug of pathological tissue grasped by forceps and ready for excision with curved scissors just above the tenaculum points.

In advocating amputation of the cervix for inflammatory conditions, L. Touvenaint (France) says: "The curette, which gives excellent results in chronic corporeal endometritis, is altogether insufficient in cervical endometritis. The operation [amputation] gives brilliant results, preceded by curetting; we say preceded by curetting because it is rarely the case that inflammation of the cervix has not been propagated to the cavity of the body, and the endometritis become general. . . . Amputation is not done solely for the sake of removing a part of the organ; it possesses also the advantage of

inducing profound modification in the vitality of the entire uterus, so that this undergoes a veritable involution."

The form of amputation which I practice, I prefer to call by a more distinctly descriptive name.

Revival of Term "Tracheloplasty."—Amputation conveys the sense only of the taking away of the diseased organ, whereas the object of ideal operating is the removal of adventitious tissue only, the restoration of anatomic conditions and re-establishment of normal function.

I had called my work tracheloplasty in reference to its nature and intent before I knew that Parvin had once given the same name to the early work of Emmett. As the latter never accepted it and as I find it most aptly fitted to my use, I have adopted it and shall continue to designate by it the following operation:

The Author's Operation.—The patient, being surgically prepared, is placed in the lithotomy position and the cervix drawn down with a vulsellum forceps, bringing the uterus well into view. The cervix is dilated and the uterus curetted if indications for curettage exist. These are, however, so nearly constant as to make it practically the rule. The cervix being drawn down with the bullet forceps or a double tenaculum, the blades may be reversed and replaced within the cervix so that their points are directed laterally from within outward, but I prefer to use the specially devised instrument which you see here. (Fig. 1.) By using it in this manner traction is made upon the inner area of the cervix, leaving the anterior and posterior walls free for making the flaps. The cervix is now transfixed by this special knife (Figs. 2a, 2b), and a clean cut made from above downward, first in the posterior lip. The anterior lip is transfixed in a similar manner about 1 or 1.5 centimeter in front of the other and cut in the same way.

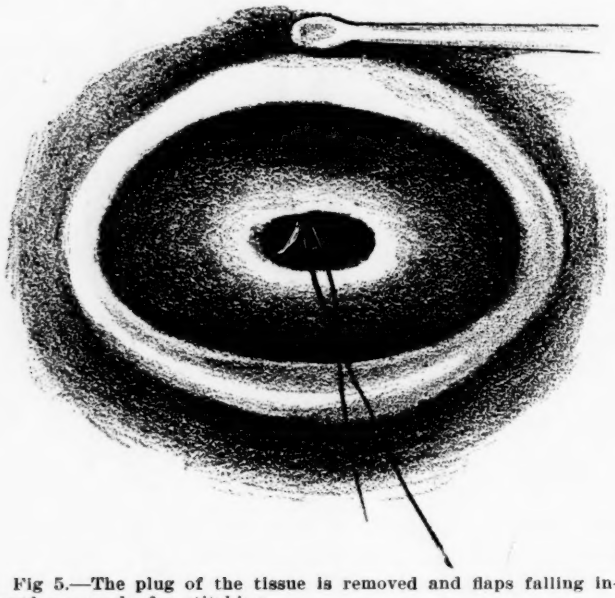

Fig 5.—The plug of the tissue is removed and flaps falling inward are ready for stitching.

The intervening plug of diseased tissue is now removed by a single cut or two of the curved scissors, the bullet forceps having been changed to a lower position to allow it. (Fig. 3.) The flaps thus made will now fall together and inward so as to assume the appearance of a normal cervix and will require only the simplest suturing to keep them in this position. (Fig. 5.) The first suture is passed through the center of the anterior flap, a centimeter or more from its cut edge, and brought out about three-fourths of a centimeter within the cervical canal. Two parallel stitches are now placed at each angle of the cervical canal. Silkworm gut is the suture material I commonly use, and the employment of this fixed needle and holder (Fig. 4) renders an otherwise difficult procedure quite easy. The posterior lip is treated in the same manner, except that here it is easier to pass the sutures from within outward, while the reverse is true in sewing the anterior lip. Two sutures are now passed, as in trachelorrhaphy, through the outer angles of the wound, which gape slightly after the turning in of the flap. For nice adjustment of the stitches and for ease in removal I am in the habit of treating them this way: In tying the sutures one end of each is left long and these long ends are grouped by tying them together according to their location. The three anterior sutures form one group, the three posteriors one group, and the two lateral sutures are tied together, a pair on each side, making four groups in all.

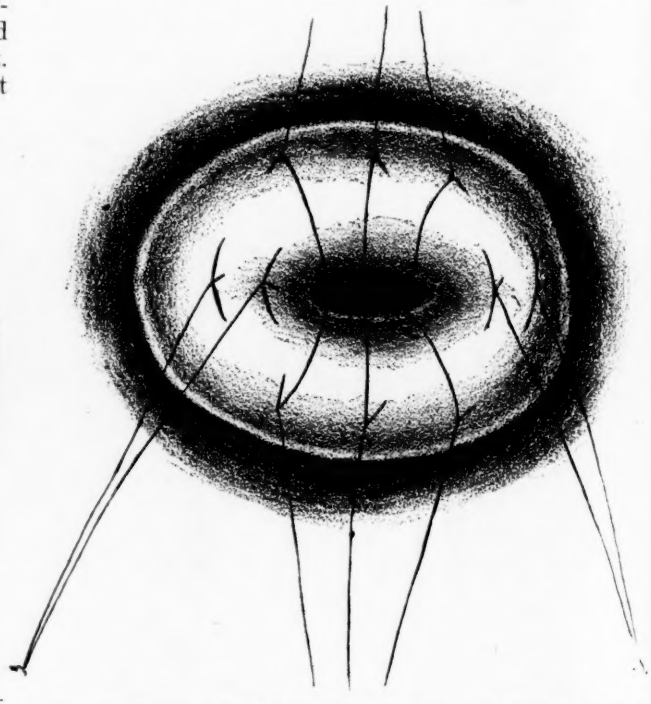

Fig. 6.—Showing stitches in situ and manner of tying in groups.

(Fig. 6.) A uterine tampon of iodoform gauze or wicking is now inserted by means of this forceps and tampon-carrier (Fig. 7), a projecting strand being attached to the vaginal gauze tampon in order that both may be removed without undue disturbance of the parts. If no accessory work is done the usual perineal dressings are applied and the patient put to bed. The external genitals are bathed with antiseptics after micturition, but no douching of vagina or disturbance of tampons is allowed until the second or third day, when the entire tampon is removed and not replaced. Vaginal douches of 1 to 4000 bichlorid are then used twice daily. The sutures are removed at the end of two weeks, when the patient can be up.

The advantages of this method are: 1. Quickness and ease of operating by the knife here presented, the manner of making the flaps transcending in certainty and safety of execution the ordinary methods of excision. 2. Clean, smooth-cut surfaces, obtained without haggling of tissue. 3. The easy approximation of flaps and the avoidance of all hemorrhage beneath them by deep placing of suture and compression of the

flaps. 4. The accurate approximation of mucous membrane to mucous membrane, thus avoiding granulating surfaces, formation of cicatrix and constricting of the canal. (This feature, which also pertains to Schroeder's operation, is of great importance and a decided advantage over trachelorrhaphy, especially where the entire mucous membrane is removed.) 5. The certainty of obtaining a permanently patulous canal and a well-formed cervix with pronounced reduction of the hyper-

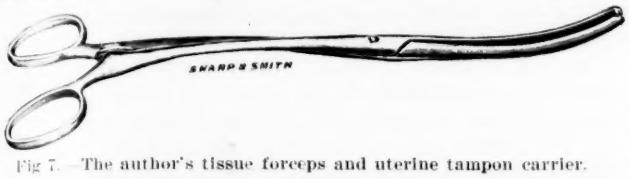

Fig 7.—The author's tissue forceps and uterine tampon carrier.

plastic uterus. 6. The simplicity of the after-treatment.

Finally, plastic gynecological work, to be ultimately successful, should not be done piecemeal. The operation I have described is seldom called for alone. The neglect to do necessary complementary operations brings frequent failures. While tracheloplasty will often correct a simple displacement of the uterus due to inflammatory conditions with increased size and weight by correcting the lesion of the cervix and the accompanying metritis and by stimulating involution, its value may be greatly enhanced by such reinforcing work as shortening the round ligaments or suspensio-uteri where there is dis-

Fig. 8.—Excised cervical tissue.

placement of the uterus; divulsion and curetting when disease has extended to the endometrium above; reparation of the pelvic floor when, through relaxation or trauma in childbed, there is hernial condition of rectum, bladder, vagina or superimposed viscera; even opening of the abdomen for plastic work or resection in pathological conditions of ovaries, tubes, etc.

Any one or all of these accessory operations may be necessary to the restoration of the patient, although the diseased or deformed cervix was the essential, perhaps the sole, etiological factor in her case.

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THE PHYSIOLOGIC CARE OF COLDS.*

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That the condition called a cold is one of repletion, may be readily demonstrated. Among other evidences of this is the fact that treatment based on this theory is uniformly successful. Its acquisition is frequently attributed to some exposure, it may be from lack of wearing apparel, or from atmospheric changes. But a closer examination will show this to be an erroneous conclusion, for on many occasions the observer has been exposed to a great variety of changes without any cold resulting therefrom, when again, under other conditions, with the slightest exposure, in even the hottest weather, one may suffer from the hardest kind of a cold. This results from imperfect elimination, or an inactive condition of the excretory organs. In fact it is the condition of the individual, rather than his exposure. The impurities of the system are being discharged through the mucous membrane, particularly of the head, instead of the proper eliminating organs. Many a time has this condition been brought about by a too-generous dinner. The sudden changing from heat to cold, by going from a warm room to the cold air of outdoors, when a person is debilitated and of feeble reactive powers, frequently produces the condition called a cold. Any overwork or exhaustion of the nervous system places the body in a negative state, so that there is less power of vital resistance to morbific changes. A languid, exhausted feeling is often accompanied by a headache, or inactive stomach and bowels. If the ordinary amount of labor is imposed upon those organs while in that condition, it is necessarily most imperfectly performed. Then is the body poisoned by its own impurities. Too frequently tonics are taken to spur on and still further exhaust an already weakened system.

In looking for the cause of colds, or any other disease, it is well to consider the first cause, rather than the merely exciting or secondary one, which is only incidental to the disturbance. By doing this we can shape our life so as to avoid most of the disasters common to modern civilization. Ignorance of the laws of life, and of man's relation thereto makes of him a slave, while knowledge of these laws gives him freedom to instantly accept and enjoy the fruits of obedience.

The invariable cause of colds come from within, not without. No one takes cold when in a good vigorous state of health, with pure blood coursing through his body, and there is no good reason why any one in ordinary health should have a cold. It may come from insufficient exercise, breathing of foul air, want of wholesome food, excess of food, lack of bathing, etc., but always from some violation of the plain laws of health.

There can be no more prolific cause of colds than highly-seasoned foods, as well as frequent eating. These give no time for the digestive organs to rest, and incite an increased flow of the digestive secretions. Thus larger quantities of nourishment are absorbed than can be properly utilized, and the result is an obstruction, commonly called a "cold," which is simply an effort of the system to expel the useless material. Properly speaking, it is self-poisoning, due to an incapability of the organism to regulate and compensate for the disturbance.

A deficient supply of pure air to the lungs is not only

*Presented to the Section on Physiology and Dietetics, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

a strong predisposing cause of colds, but a prolific source of much graver conditions. Pure air and exercise are necessary to prepare the system for the assimilation of nutriment, for without them there can be no vigorous health. The oxygen of the air we breathe regulates the appetite as well as the nutriment that is built up in the system. The safest and best way to avoid colds is to sleep in a room with the windows wide open, and to remain out of doors every day, no matter what may be the weather, for at least two hours, preferably with some kind of exercise, if no more than walking. One should not sit down to rest while the feet are wet or the clothing damp. A person may go with the clothing wet through to the skin, all day, if he but keep moving. Exercise keeps up the circulation and that prevents taking cold.

The physiologic care of colds is the prevention of their occurrence. The person who does not carry around an oversupply of alimentation in his system, and furthermore secures a purified circulation by strict sanitary cleanliness, thus placing himself in a positive condition, is immune to colds. A starving man can not take cold.

A careful diet would exclude the use of all narcotics, and of all food that is not thoroughly appropriated. An overfed person is worse off than one who is underfed, because the overfed body is taxed to dispose of what can not be appropriated, and when not properly disposed of, remains only to be an element of danger.

Inasmuch as a congested condition of the mucous membrane of the head and throat is always present in case of colds, and the breaking up of this condition is the prime requisite, and as elimination is the most powerful measure of relief, it is a source of gratification that, in the proper use of heat, we have the most powerful eliminating agent that is known. The most convenient and effective form of utilizing heat on the human economy is by the modern Turkish bath. It has been thoroughly tested in thousands of cases, and never known to fail. Its action is so positive that relief follows promptly on its application. At such times there is a determination of blood and nervous energy to the mucous membranes. The action of heat relaxes the tissues, thereby inviting a normal circulation through the congested parts and changing this determination to the surface and extremities, thus restoring the balance to the circulation, and at the same time unloading the system of its impurities through the skin and other natural excretories, instead of the internal mucous membrane.

All the various effects that follow what is called "taking cold," are traceable to the skin's failure to send off waste in the insensible perspiration. The catarrh which shows itself in a discharge from the nostrils is a very clear effect of this failure of the skin. The substance which ought to pass away in insensible perspiration forces its way through the membranes of the nostrils in a thickened state, only because it is not sent off by the chilled and deadened skin. If the skin was doing its work, this effect could not possibly occur.

During a cold the system is struggling to rid itself of impurities through the Schneiderian membrane, where the sense of smell is located. This is naturally very tender and sensitive, and is made more so by the abnormal condition. The Turkish bath enforces a derivative action, and the discharge is largely carried off through the external skin and no longer remains a source of irritation. The normal balance is restored, and if utilized at the outset relief is prompt. The heat opens the sluice ways of the skin, and the system is quickly unloaded of what has been blocking the outlets, but in the later stages, and when the whole body is burdened with debris, the result of a long infringement of the laws of health, a persevering course of treatment is required. The Turkish bath is equal to this emergency, and may be desirable twice a day. Furthermore this bath is reconstructive, for it not only removes from the blood its used-up material, but hastens on the new supply of invigorated blood, and thus every function of the body is quickened. It also removes the superfluous accumulations of the outer layer of the skin and enables it to complete the perfect work of reconstruction. In cases where pneumonia has developed, its action is most salutary. One of the latest cases was fully restored inside of two weeks from the onset of the disease.

The primary cause of all disease is internal. No disease develops in the body from any accidental or secondary cause without the co-operation of the fundamental one. Health is the harmonious action of all the functions. There is no doubt that the larger amount of disease comes from unsuitable food, producing abnormal conditions of the blood. Too frequently there is a wrong selection of food, and often an imperfect preparation of that which of itself is good.

Inasmuch as people are inclined to cater more to the taste and fancy, rather than to consider the hygienic value of their foods, the result of their feeding is sure to produce a state of inharmony. The blood can not thus be furnished with the proper elements for forming healthy tissue. Man does not live by what he eats, but by what he digests and appropriates. Health is man's normal condition. No ache or pain should trouble any human being until death comes naturally at the end of a long life. If this desideratum is not secured, there is evidently some mistake in the dietetic habits.

Frequently the body is pickled with common salt, which is equivalent to saying it is poisoned by it. The salt dissolved in the blood passes into all the tissues. Osmosis takes place. Through the cell membranes the salt enters the cells and the cell contents pass out. These constituents, freed from the tissues, must be excreted through the kidneys as waste material. Thus degeneration takes place, through the abuse of common salt, and the system is made more susceptible to colds.

The practice of administering quinin to break up a cold is to be condemned, because it debilitates the nervous system and weakens the action of the heart. The same may be said of any alcoholic medicament, because the nervous system is first irritated and afterward depressed by its use. In fact when the system is laboring in an effort to free itself from any obstruction, the presentation of a powerful agent that interferes with elimination is not only uncalled for, but decidedly injurious, because it prevents the natural forces from doing their perfect work.

When people understand that disease is a vital struggle, an effort to protect and defend the organism, that it is not a thing or entity, foreign to the system, but an action of the system itself, which seeks its preservation, not its destruction, they will cease to fear it; they will only fear its cause.

To make a radical cure of a cold, let the patient abstain entirely from food for at least twenty-four hours. Should the bowels be at all inactive, it is desirable that they be thoroughly flushed with warm water. Drink freely of pure water, taking a brisk walk in the open air, and then a Turkish bath. This may well be followed by an oil-rub, sometimes called a Roman bath, which mol-

lifies the skin, making it more flexible and active. He will find a permanent benefit therefrom. The internal pressure will be relieved, and the cure perfected. Necessarily chronic cases need more persevering treatment, but each day will show progress, and only perseverance is needed to triumph ultimately over the morbid action. This fact is important, for it is claimed that 75 per cent. of the inhabitants of New York are constant sufferers from some form of colds. If they were always promptly and properly treated there would be many less cases of la grippe, pneumonia, or even consumption to be cared for. It would be like turning the stream in the right direction at the fountain head. We well know that many victims of la grippe do not regain their normal condition of health for several years afterward.

When the above plan is faithfully carried out, the individual is free from any symptom of disease, rarely finds a handkerchief necessary, or even a need of clearing the throat. The converse may be quickly proved by a short season of greasy and highly-seasoned food, and an extra meal added to the usual supply. The old proverb, "Stuff a cold and starve a fever," is an absurdity, for one suffering with a cold has already an inward fever on hand, and the more he is stuffed the worse he will become. Stuff a cold and you will be sure to have a fever to starve. One authority says that living on fruit for two or three days and drinking freely of hot or cold water, with milk for nourishment, will often cure an ordinary cold. Some persons, by drinking freely of cold water and exercising vigorously, can easily throw off a cold.

All harassing forms of coughing can be avoided by simply obeying the laws of health. The cough is a process of nature to relieve itself of impurities which are then thrown off by the mucous membrane instead of by the usual excretory organs. By purifying the system, by eliminating the impurities through the natural channels, we relieve the determination of the blood and nervous energy to the mucous membrane, and the cough vanishes. By freely drinking of hot water every hour, this happy result can be materially hastened. This is much better than taking the ordinary cough mixtures, which disorder digestion and spoil the appetite. The water should be taken as hot as can be borne, and relieves by promoting the secretions as well as the expectoration.

A simple "cold in the head" may be successfully treated by drawing hot water into the nostrils and then blowing it out, repeating the process several times, until the nose is thoroughly cleaned. This is a simple and effective way of strengthening the membranes. It is both soothing and curative, and may be done morning and evening while washing the face. Whenever hoarseness is apparent, the one remedy is rest. Like other disease, a cold is not a thing which leaves no trace. It should be treated with as much care as would be given to many other diseases. If neglected, it is liable to bring on serious complications. Every period of disease through which a person passes, whatever its nature, is a permanent impairment of the vitality. Therefore, catching cold, or the beginning of any disease, is to be avoided as much as that of losing a valued possession. Lack of attention to such matters causes one to grow old sooner than he otherwise would.

For those in fair health, the practice of cold bathing in the morning is to be commended, particularly if a warm shower precedes the cold, or a short season in a warm room precedes the cold plunge. This is then most invigorating, and helps to tone up the skin to be unmindful of external changes of temperature, and the person less liable to take cold. But of all baths, the Turkish ranks at the head. For those who aim at the highest efficiency of bodily vigor, there is nothing more helpful than that of indulging in its sanitary luxuries at least once a week.

Few realize the many advantages of pure water for drinking. We pay a great deal for water that is impregnated with this or that salt, while the more it is impregnated with any foreign substance, the less valuable is it to the human economy. One great desirability of pure water is that it will dissolve, and thus help to eliminate, morbid accumulations from the system, wherever they may be lodged, whether they may be granular, crystalline, or calcareous. This is one of Nature's processes to save the health and life of the body. An eminent physician claims water to be a food, indispensable to all mankind. It certainly makes up the largest part of our bodies, is one of God's best gifts to man, and should be freely indulged in.

The surest safeguard against all disease is a purified and well-balanced circulation in a well-nourished body. The Turkish bath properly used secures the first, and a careful diet, combined with a moderate amount of exercise and out-door life, will secure the second. It is our unnatural, artificial mode of living which gives rise to all disease, or at least to our predisposition to disease.

There must be a certain definite way of living for every species of animal, and certainly for the human race. A transgression from this rightful way must in some manner alter the normal composition as well as the reactive power of the body. A man living on bread and milk differs in appearance, and the condition of his tissues from one whose food is highly seasoned, and who uses alcoholic drinks, together with tea, coffee, and tobacco. These narcotics have enormously assisted in the rapid degeneration of civilized mankind in this latter half of the nineteenth century, nor can we expect to see any great improvement unless the subjects of health and hygiene, the very foundation of life and wisdom, are taught to the rising generation in our schools.

Such an important matter as alimentation, the foundation and mainspring of bodily and mental, individual and social health, deserves the best work of the ablest minds. Physicians may indeed be proud to help in this cause, and thus take their rightful position as leaders in hygienic and medical matters. What is largely needed is a clear insight into the beneficial or harmful action of the habits of daily life upon the body. When physicians are appointed by the state as teachers of hygiene, a new era will be entered upon, and the physiologic care of colds will receive its due meed of attention.

Spontaneous Rupture of the Uterus.—Jardine recently reported (*Glasgow Med. Jour.*, April) a case of this rare complication during labor, in a woman aged 32, vii-para. When admitted to the hospital there had been some hemorrhage, but it had ceased. The os admitted two fingers. The head presented in the first position. She was having regular pains, the pulse was good and there was no over-distension of the uterus. Three hours later she had three severe pains in quick succession and collapse. Delivery was made by forceps and the tear in the uterus plugged, but the patient died in a few moments. The rupture extended almost to the fundus on the left side, the vaginal portion evidently having given way during the delivery.

ATROPHY OF THE MUCOUS MEMBRANE OF THE STOMACH.*

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While much has been written upon this disease by different authors, comparatively few cases have been reported, and many of the cases which are reported under this heading are worthless because the diagnosis is made simply upon the absence of free HCl in the stomach contents. It is due to Fenwick[1] who, in 1877, was the first to call attention to this condition of the stomach as an independent disease, particularly as to the question of its being incited, or caused by, and having relation to, pernicious anemia, that we acknowledge our obligations to his efforts. Since that time a large number of authors, Ewald,[2] Nothnagel,[3] Osler,[4] Kinnicutt,[5] Einhorn,[6] and others, have employed themselves in a more exact study of this disease under the different names of atrophy of the mucous membrane of the stomach, achylia gastrica, atrophia gastritis, phthisis ventriculi, catarrhus atrophicans, *anadnie des Magens*, etc. It would occupy too much space at this time to attempt to follow out the evolution and development of this question by the authors mentioned. In my own experience in diseases of the stomach and intestines, it has been impressed upon me that this condition is not so rare as it is commonly supposed to be. I have, therefore, thought it might be of interest to the profession at large to mention a few cases taken at random from a large number of histories, and to give a line of treatment which has been successful in my hands. I have also included a few cases, for comparison, which appeared at first to justify a diagnosis of atrophy, but which proved later to be achlorhydria, or simply achylia without the permanent organic change in the mucous membrane. Most authors have associated this condition with pernicious anemia, which is a fatal disease. This seems to me to be wrong, for, in the first place, as will be seen further on, patients with atrophy may enjoy apparently good health and long life and, in the second place, a positive diagnosis of this condition should not be made until all justifiable means of treatment have been exhausted and repeated examinations fail to show any sign of a return of the stomach secretions.

Clinically one may speak of achylia gastrica where, upon analysis of a test-meal, there is found to be a greater or less disappearance of gastric secretions, but one can only speak of an atrophy of the mucous membrane of the stomach where, after repeated examinations under different conditions and at various periods after the ingestion of food, there is a complete absence of all normal constituents of gastric juice. It is often the case that only the free HCl is absent, and the conclusion is too hastily drawn that we have to deal with a case of atrophy of the mucous membrane, while it is a question of the disappearance not only of the free but also of the combined HCl which concerns us in making a positive diagnosis of atrophy, and it is only where, after a test-breakfast or test-meal the stomach contents are either neutral or quite low in total acidity, namely from four to six, that one can say without further examination that the secretion of gastric juice, and consequently HCl, has completely disappeared. Where simple acidity exists one can suppose without further examination that he has to deal with an achlorhydria.

I wish to emphasize a point which I brought out in a former article,[7] and regarding which a false impression seems still to exist in the minds of many practitioners. I refer to the impression that the absence of free HCl is a cardinal sign of malignant disease. This is not the fact at all, as will be seen in the cases I am about to cite, none of which has shown any symptoms whatever of malignant disease. Besides I have seen many, many cases of acute and chronic gastritis in which no free HCl can be demonstrated. On the other hand, I may mention here that I have but recently seen two cases with free HCl, one in fact with a hypersecretion which proved at operation to be carcinoma. My experience corresponds with that of Einhorn, that as a general rule, in cases of atrophy of the mucous membrane of the stomach, there exists a condition of chronic diarrhea, although, as will be seen, there are exceptions to this rule.

CASE 1.—Mrs. C., aged 61, had always been a remarkably healthy and active woman until five years ago, really appearing to be ten years younger than her true age. Her trouble began with attacks of watery diarrhea, without pain, three to five movements a day, but coming so suddenly that she was prevented from going into society, to the theater, etc. The attacks increased in frequency and were brought on by over-fatigue and anxiety; her condition would improve by rest and change of scene, although she was never quite well nor entirely free from her trouble during all those years, and had gradually lost flesh and strength to the extent of 38 pounds actual weight. Her appetite was poor, tongue coated, and when I first saw her she was living on one quart of milk a day, having had her diet restricted by one physician after another until she was afraid to take anything else. She was extremely nervous and had had two or three recent attacks of vomiting and syncope. Examination of the stomach contents one hour after the Ewald-Boas test-breakfast revealed the absence of all stomach secretions; reaction neutral; bread unchanged. The patient was put upon a gradually increasing diet of farinaceous food finely ground and well cooked, white bread and butter, milk, and later eggs, meat and fish were added until the following program was established at the end of the first week:

7 a. m.: A glass of milk with two thin water biscuits and butter, taken in bed. 10 a. m.: Breakfast of two eggs heated through, a cup of weak tea with sugar and milk, and white bread with butter. Between 11 and 12 a drive in the open air. 1 p. m.: Luncheon of broiled lamb chop or chicken, rice, white bread with butter, mashed or baked potatoes, followed by complete rest for one hour. Between 3 and 4, another drive or a short walk in the open air. 4 p. m.: A glass of milk with one raw egg beaten up, or an egg-nog. 7 p. m.: Dinner of chicken soup, a piece of broiled steak or roast beef, bread and butter, baked potato, or rice or hominy. 10 p. m.: A glass of milk with two water-thin biscuits with butter. The rice and hominy were varied with other cereals to suit the taste of the patient, and she was urged to let her meals consist principally of cereals with milk and to eat at least three or four ounces of butter a day.

Improvement was manifest from the first, and during the second week of her treatment she was attending opera four hours long, visiting with her friends, and by the third week was making engagements with her dentist. She was under observation and treatment for about four weeks, and, during that time, had but two slight attacks of her trouble, due to over-fatigue. Five weeks from the beginning of her treatment I received a letter saying that she felt perfectly well, had gained 10 pounds and was enjoying life with an excellent appetite. The treatment of this case was very simple, but the patient had been under the care of a number of physicians who had exhausted the list of astringents and diarrhea mixtures

*Presented to the Section on Physiology and Dietetics, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

without any permanent results, and had finally excluded so many things from her diet as to cause serious loss of flesh and great anxiety on the part of her children and friends.

CASE 2.—Mrs. M., aged 51, whose mother died of carcinoma of the stomach at 57, and a brother of carcinoma of the face, had lost three brothers and sisters with cholera infantum. The patient herself had had considerable trouble with her stomach and bowels for the past twenty years, characterized chiefly by watery diarrhea and vomiting. She had been accustomed, in her younger days, to rich dinners with wines at all hours of the night or day, but of recent years has lived almost exclusively on milk, malted milk, and other prepared semiliquid foods. Solid food in any form causes her pain and immediately brings back her trouble with renewed severity. Opium in large doses has been her chief anchor for several years, and she has taken so much of the drug that the characteristic color of the skin is marked. One year ago she weighed 253 pounds. Her weight at the time of her first visit to me was 175 pounds, showing a rapid wasting of flesh in a comparatively short time, so that the skin hung in loose folds. Chemical examination of the stomach contents one hour after an Ewald-Boas test-meal gave total acidity 12; free HCl, 0; combined HCl, 5; lactic acid, 0; rennet, 0.

In addition to the usual hygienic measures which I prescribe for every patient who is not already living up to them, I advised her to enlarge her diet somewhat cautiously, adding first zoolak, kumyss, malted milk and farinaceous food-stuffs finely ground and well cooked; absolute rest one-half to one hour after each meal; massage three times a week. Improvement began at once, and we began to enlarge the diet list, adding raw or soft-boiled eggs and the well known junket made with milk, eggs and Fairchild's essence of pepsin, any of the cereals except oatmeal, which were finely ground and the outer shell removed, plenty of bread and butter; but the first attempt at giving meat or any irritating substance whatever would immediately cause the return of her trouble. Repeated examinations of the stomach contents at various periods after eating always showed total acidity of from 4 to 20, never any free HCl, never any lactic acid except when milk had been taken with the previous meal. The patient gained in strength and her weight increased during the winter to 194 pounds. Examination of the blood showed the percentage hemoglobin to be 60, with slight change in the size and shape of the red blood-corpuscles. I advised simple regulation of the diet to suit intestinal digestion, regular habits of life, avoidance of all fatigue or nervous strain, and a period of complete rest in the middle of the day, with the simple medication to be mentioned hereafter, and this seemed to meet all requirements.

This, no doubt, like Case 1, was one of real atrophy of the mucous membrane of the stomach, but not incompatible with health under proper regimen, for I have seen the patient but once professionally during the past eighteen months, and that was for an attack of la grippe.

CASE 3.—Mrs. H., aged 41, whose main trouble was characterized by attacks of diarrhea without explainable cause, between which attacks the bowels were usually quite regular, was very rarely constipated. She complained of backache, of being easily exhausted, and had lost considerable in weight during the year. The appearance of the patient and her group of symptoms led me to make an analysis of the stomach contents one hour after the Ewald-Boas test-breakfast, with the following results: quantity in the stomach, 90 c.c.; total acidity, 6; free HCl, 0; rennet, 0; lactic acid, 0. A farinaceous diet with a limited amount of light meats, fish and whites of eggs was prescribed for this patient, with rest in the middle of the day and fresh air.

This case especially brought out how well one may be with this condition of the stomach. With little or no treatment aside from regulation of her daily life, and with very little restriction of diet, she gradually improved and now eats almost everything she fancies, and she feels perfectly well so long as she avoids over-fatigue.

CASE 4.—Miss S., aged 23, came to me in November, 1899, with the history that for two years she had been troubled with looseness of the bowels unfitting her for work, or even social duties, continuing more or less throughout the entire year, but aggravated during the warm weather. She had become very much worried and discouraged over her condition, as she had tried several physicians with no more than temporary relief. Her appetite was good, her habits temperate, physical examination negative; analysis of the stomach contents one hour after a test-breakfast of a roll and a glass and a half of water resulted as follows: Total quantity of chyme, 135 c.c.; mucus present in moderate amount; chyme in good state of digestion; total acidity 30; free HCl, 0. Four hours after a test-meal consisting of two soft-boiled eggs, a cup of coffee (half milk), one roll and a glass of water, total quantity of chyme 150 c.c.; total acidity 32; HCl, 0. Starch digestion had reached the stage of maltose. The patient was put on a farinaceous diet, ordered to take a cool sponge bath every morning, exercise at least once a day in the open air—short of fatigue—and to put her mind at rest as to her trouble, since it was not dangerous and she would soon be all right. The patient improved immediately, began to gain in weight, and I have since received assurances from her by mail that she is perfectly well.

CASE 5.—Mr. P., aged 47, gave a history of gastric disturbance extending over a period of years characterized by excessive flatulency coming on some time after eating and associated with severe frontal headaches; appetite good; bowels very constipated; tongue coated with a white fur; habits temperate but sedentary. Physical examination was negative. One hour after an Ewald-Boas test-breakfast, the stomach contained 135 c.c.; considerable mucus; total acidity, 6; free HCl, 0; rennet, 0; starch digestion, maltose. The urine was of high specific gravity with a large amount of urates and uric acid.

The patient was put upon a farinaceous diet, milk and Celestin vichy between meals, with a cold sponge bath every morning and outdoor exercise. Improvement began immediately, the patient taking up golf for his outdoor exercise. He was very faithful and regular in his treatment, and in a reasonable time was able to partake of a very general diet, although chemical analyses of the stomach contents showed, from time to time, a low total acidity and no free HCl, but he enjoyed his food and his daily life and a general sense of well-being.

The essential points in this case, which I wish to bring out most prominently, are: 1, contrary to the general rule in this class of cases this man was troubled with constipation, the rule being that these patients suffer from diarrhea; 2, and most remarkable, after one year of faithful and almost continuous treatment, except for a vacation trip now and then, taken as a diversion, the total acidity increased, free HCl and the rennet ferment reappeared, and there was also improvement in the motor power of the stomach. A recent analysis of the stomach contents one hour after a test-meal showed the quantity of chyme to be 50 c. c.; total acidity 40; free HCl, 20. This patient now comes to my office only occasionally for lavage or electricity, as circumstances indicate after some transgression in diet, or following some unusual nervous strain.

TREATMENT.

As to the indications for the treatment of these cases, first comes the regulation of the daily life, baths, exercise—active or passive—and rest. These I have already alluded to, but I wish to refer again to the diet, which is most important of all in the successful treatment of this affection. As has already been seen, we must depend on farinaceous food, and the patients must be urged to ingest larger quantities than they will feel inclined to take, for they should not be starved. While I do not believe in assisting any healthy organ of the body in doing its physiologic normal work, there are times when an extra amount of work is or must be

thrown upon certain organs, and we are obliged in such cases to furnish some assistance to those organs or our patient will suffer in health. As in hyperopia, to borrow an illustration from ophthalmology, we must advise convex lenses to relieve the extra strain, so in the cases under discussion we must in reason look for some diastatic ferment to aid the intestines in the additional work thrown upon them. I have tried many of these ferments, of which the market is to-day full, but will in this article illustrate but one in which the laboratory experiments have been borne out in actual practice with my patients. To test the accuracy of my conclusions I made a number of experiments in the laboratory with a view of ascertaining what action the actual gastric juices have upon starchy digestion. The result of these experiments was the demonstration of the fact that taka-diastase will act upon and digest starch in the presence even of gastric juice of hyperacidity. Past records in medical chemistry show the difficulty of measuring quantitatively the digestive power of any diastatic enzyme on starchy food. This difficulty is due to the fact that so far all known methods for the determination of sugar are of such complicated nature that even expert chemists can carry out only a few tests in the course of a single day. Hence, while this determination of the digestive powers of saliva and artificial or natural enzymes, or diastatic preparations could not be made use of for medical or clinical purposes, I have found a very simple yet sufficiently accurate method of determining the digestive power of these diastatic agents. This method can be carried out easily by practicing physicians, and it has the advantage of requiring only a few minutes. It is based upon the fact that the products of conversion or digestion formed by the action of saliva and other diastatic substances upon starchy food have the power of decolorizing or absorbing the color of iodin compounds after different stages of digestion of the starch. When diastatic bodies are allowed to act upon cooked starchy foods, the first stage of digestion is their conversion into soluble starch, which conversion is indicated by the formation of the blue soluble color on the addition of iodin solution, while the original cooked starch forms an insoluble blue compound with iodin. The further action of the diastatic bodies upon the soluble starch is the formation of dextrin, which is indicated by a reddish-brown color when iodin is added. Between the foregoing two stages of digestion there intervenes a stage when the soluble starch and dextrin are mixed in various quantities, which are indicated by different grades of purplish color showing the different mixtures of soluble starch and dextrin. When the digestion goes still further it reaches a condition where the product of digestion forms a colorless compound with iodin, such as different kinds of acrodextrins and different forms of sugar. That is to say, during the course of digestion at its early stage, the iodin forms a product of different colors, and while it advances and completes the digestion this iodin coloring compound is changed into a compound which will give no color when mixed with iodin.

I have also found that if this non-coloring or acro-compound of iodin and starch be added to the coloring compound of iodin and starch, the former absorbs the color of the latter, or bleaches it, making the mixture colorless.

I wish now to describe this process—based on the application of these facts—for determining the digestive power of the saliva, or other artificial or natural diastatic substances. In this process there are four glasses. The first contains water, to which we add some cooked starch. The second also contains plain water, which will represent a neutral medium, to which we add some cooked starch and taka-diastase. The third glass contains gastric juice without free HCl and a low total acidity—this is the condition always found in the cases under discussion. In the fourth glass we have gastric juice of a very high acidity with an excessive secretion of free HCl; to both of these latter we also add cooked starch and taka-diastase. I have chosen this last specimen to illustrate that taka-diastase will work in an acid medium, although it works much better in a neutral medium or one of low acidity. We now take four test-tubes, in each tube we put 20 minims from each of our four glasses. To each I now add two drops of a solution of iodin. In the first tube we find the blue color characteristic of iodin and starch. The second tube exhibits a purplish color, as do also the third and fourth. Now, why does tube No. 1 show a different color from the other three? If we examine the constituents, we find that the three latter contain an element, namely taka-diastase, that is not present in the first tube. Now, in order to determine quantitatively the degree of the digestion, we go back to the four original glasses. Add a quantity of the contents of the first glass to the first test-tube, and we observe that the blue color is increased; no matter how much we add there will be no change in this solution, showing conclusively that there has been no starch digestion. In like manner add some of the contents of the second, third and fourth glasses to the second, third and fourth test-tubes, and in just the proportion that starch digestion has proceeded we find a disappearance of the blue, showing the approach of the digestion toward the end product, which is maltose. You will observe that the taka-diastase has acted most completely in the neutral medium, but exceedingly well in the gastric juice of low acidity, and fairly well in the gastric juice of hyperacidity; and we all know that this latter is fatal to the ptyalin ferment of the saliva.

In addition to the foregoing treatment of these cases we must give at first some mild astringent which will be at the same time a disinfectant and tonic to the intestines. For this purpose my two favorite drugs are tannigen and tannalbin.

As we frequently find also, in this condition, more or less anemia, I use some form of iron which will not disturb digestion, usually some one of the preparations of peptomanganate of iron. I am often asked by physicians taking a course with me why I do not use dilute HCl and pepsin more often in these cases. I may say that I have often tried it but have obtained no results either in laboratory experiments or in practice which justify its continued use. If ever a case seemed to demand these drugs, Case 2 was an ideal one, but trial quickly proved their uselessness, for they only increased the disturbance and had to be abandoned immediately. When there is much mucus I use lavage and an intragastric spray of nitrate of silver solution, 1 to 1000. In all these cases I use intragastric electricity—galvanism—often without benefit; in fact, there can be no benefit if we have a true atrophy to deal with, but as has been seen in Case 5, which seemed at first to be a true case of atrophy, the secretions were fully restored after a long course of electric treatment, proving the benefit of this agent.

I could go on and cite many more cases equally interesting, but these will suffice to show the importance: 1, of making careful examinations and analyses of all the secretions, including the gastric juice of patients

suffering with chronic disturbances of the stomach and bowels; and 2, of careful, persevering and persistent treatment, with the full assurance of success in the long run to the satisfaction of both the patient and the physician. In no other organ of the body is an analysis more important or helpful to an exact diagnosis, and consequently in the successful treatment, than in disturbances of the digestion. I will conclude with a quotation from Prof. C. Gerhardt: *"Die Frucht der Heilung waechst am Baume der Erkenntniss. Ohne Diagnostik, keine vernuenftige Terapie. Erst untersuchen, dann urtheilen, dann helfen."*

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SOME NOTES ON TWO CASES OF VOLUNTARY LARYNGEAL WHISTLING.*

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PHILADELPHIA.

The first case that I shall speak of was a student at the Medico-Chirurgical College, and referred to me by Dr. Gleason, of Philadelphia, who also exhibited him before the Section on Laryngology and Otology at the College of Physicians, Philadelphia, where the case aroused considerable interest and discussion. The patient could whistle a tune with his mouth open as in the position for saying "ah." Owing to the absence of good light for laryngoscopic examination, the general opinion of the majority of those present was that the whistle was made in the pharynx, somewhere in the region of the palatal pillars; but that seemed to me impossible, because the pillars were not approximated sufficiently to make an aperture small enough for the production of such a sound.

At Dr. Gleason's suggestion, an appointment was made with the young man at my office, where, with a little careful manipulation, he was trained to so control his laryngeal and pharyngeal muscles as to give me a fairly good view of the larynx during the emission of the sound; and I found that the lips of the superior opening of the larynx were pursed in the same way that the lips of the mouth are pursed in whistling, and the physiology of this interesting phenomenon was made clear to me and I was able afterward to demonstrate it to others. The aryepiglottic folds were used as the lips of the mouth are used in whistling, and, so far as I could determine, no other parts of the larynx were employed.

Since studying this case, my attention has been called to the fact that a somewhat similar one was reported in 1881, by Dr. J. O. Roe, and published in the proceedings of the American Laryngological Association. In this case, however, according to Dr. Roe's description, the whistle was made in an entirely different manner. "The ventricular bands were approximated and puckered up, leaving an elliptical opening in the center through which the vocal cords could be seen, with their thin edges vibrating. . . . . Thus it could be distinctly seen that the fundamental tones of the laryngeal whistle were produced by the vibration of the edges of the vocal cords." In my case there was no reason to suppose that the vocal cords had any more to do with the whistle than they have to do with the ordinary lip whistle, and the fundamental tone was made by the vibration of the "puckered up" aryepiglottic folds.

My other case is a man who imitates birds, and who can produce three, and at times four, distinct notes at one and the same time. He can whistle somewhere down in the region of the larynx, but not with the mouth open, as in the former case, and therefore the musculature can not be studied by laryngoscopy. Although he is an exceedingly clever man, he does not know at all how he makes these curious sounds, and so far as I know, we have no adequate artificial aids to their study. The subject is especially interesting as showing the possibility of the development of voluntary laryngeal muscle action, which formed the topic of my paper read before this Section at Columbus, in 1899.

* Read by Title in the Section on Laryngology and Otology, at the Fifty-first Annual Meeting of the American Medical Association held at Atlantic City, N. J., June 5-8, 1900.

SOME ANOMALIES OF THE EAR DUE TO ERRORS IN DEVELOPMENT.*

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PHILADELPHIA.

The earliest sign of the ear in the embryo appears about the third week, and is the anlage of the complex labyrinth. It begins as an ectodermic thickening just above the first gill-cleft (hyo-mandibular). Later there is a depression of this thickened area—the auditory pit—which grows deeper and deeper, its edges finally uniting and thus forming the otic vesicle. The otic vesicle being surrounded only by mesodermic tissue is in close proximity to the after-brain and in close relation to the acoustico-facial ganglion. By repeated evaginations, invaginations, unequal growths and foldings,

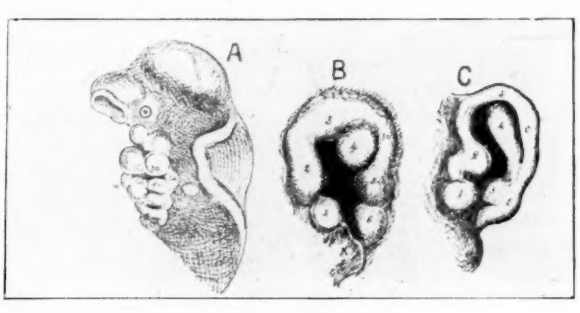

FIGURE 1.

the complex membranous labyrinth is developed, the otic vesicle proper representing the epithelial lining of the entire labyrinth; those of its cells found in the region of the distribution of the nerve of special sense—the maculæ acusticæ and cristæ acusticæ and the organ of Corti—become highly specialized, the rest of the cells remaining as simple columnar epithelium. While these changes in shape and character are taking place in the otic vesicle the surrounding mesoderm is being formed into the cartilaginous ear capsule; and from the embryonic mesoderm between the capsule and the epithelial labyrinth is formed the fibrous portion of the membranous labyrinth closely adhering to the epithelial labyrinth and the internal periosteum of the

* Read by Title in the Section on Laryngology and Otology, at the Fifty-first Annual Meeting of the American Medical Association held at Atlantic City, N. J., June 5-8, 1900.

bony canal while the tissue between these two layers liquefies and forms the perilymph. The cartilaginous capsule and surrounding structures are ossified later on and form the petrous portion of the temporal bone.

The middle and external ears are derived from the inner and outer portions of the hyomandibular cleft.

The membrana tympani is the remains of the membrane separating the inner from the outer cleft. The dorsal segment of the inner cleft—evagination of the

FIGURE 2.

primitive pharyngeal cavity—is formed into the tube and the tubo-tympanic cavity by the coalescence of its edges. This is the anlage of the Eustachian tube and its dorsal or blind extremity enlarging forms the middle ear, while its inner end opens into the pharynx just behind the soft palate.

The external auditory meatus is formed from the posterior part of the first external gill-cleft and is the only part of this cleft which is not obliterated by coalescence.

FIGURE 3.

At three months the meatus is obliterated by a solid block of epithelium, the fundus being separated from the small middle ear by the "closing plate," which becomes the tympanic membrane. In the connective tissue between the vestibule and the fundus of the external canal is the malleus or upper end of Meckel's cartilage. The tissue atrophying brings the membrana tympani around the ossiculæ, but they remain outside of the entodermic epithelium which lines the tympanic cavity. The external meatus is occluded by concresence of its epithelium until after birth. The cerumen glands appear at the age of five months.

The Ossicles.—The malleus and incus are derived

FIGURE 4.

from the cartilage of the first visceral arch near its dorsal extremity.

The stapes is formed from the connective tissue near the foramen ovale and has no relation to the cartilages in the arches.

The Auricle.—The auricle is formed around the posterior free margin of the first cleft and is first evidenced by six mesodermic tubercles covered by ectodermic cells which appear around this region. The cartilage and other connective tissues of the auricle are derived from the mesoderm, while the epithelium is derived from the ectoderm.

Figure 2 is from a lad aged 16, without other defects

FIGURE 5.

in his development. The little nodule anterior to the tragus was probably formed by an auxiliary nodule on the mandibular arch. It is apparently composed of cartilage, fibrous tissue, and skin, and could be removed without any unpleasant sequelæ.

Figure 3 is taken from a drawing made for me by my friend Dr. J. M. Taylor, from the ear of an Italian

woman, aged about 30 years, who was otherwise normal and in whose immediate ancestors there were no defects of development, nor were there any in her four children. In this case there were probably four nodules.

Figure 4 represents a case occurring in the practice of Dr. B. Alex. Randall. There was probably a failure of development of tubercles 2, 3 and 4, with failure of coalescence of 5 and 6.

Figure 5, taken from Gould and Pyle's "Anomalies," and originally from the London *Lancet*, shows what

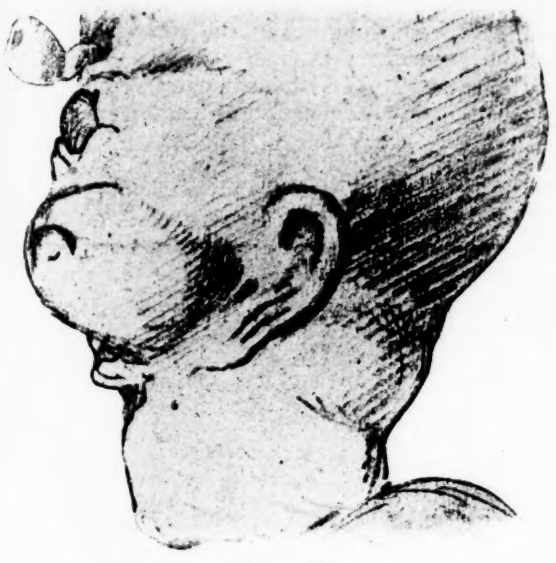

FIGURE 6.

was probably an auxiliary set of tubercles—about second cleft.

Figure 6 is taken from a newborn infant which had no external nose; it had no eyes except a rudimentary one in center of forehead from which a horn projected. Other defects were present. In this case tubercles 1, 2, 5 and 6 failed to develop.

FIGURE 7.

Figure 7 was taken from an infant that lived ten days, in which there were many other defects. It had hypospadias and a very small, but well-formed scrotum, and there existed a deformity like an auxiliary anus just at point of sacrum. It had cleft palate, embryonic nose, large fontanelles, etc. In this case tubercles 2, 3 and 6 were not developed; there was an auxiliary meatus due to failure of closure of walls of the hyomandibular cleft.

Gould and Pyle in their book of "Anomalies" have collected a number of malformations of the ear, among them being bilateral absence of the external ear, which, though rare in the human species, is constant in a species of sheep found in China. An interesting case collected by them was one of absence of the external meatus and the Eustachian tube in each side in which there was but little loss of hearing. Werner in 50,000 children found 33 with supernumerary auricles in front of the tragus.

In 1000 children in the Home for Feeble-Minded Children, at Elwyn, Pa., I found no abnormalities of the auricles, excepting peculiarities of shape and size; one of these auricles in the case of an adult measured 3½ inches longitudinally and 1¾ inches transversely.

As a rule, supernumerary auricles are pre-auricular, usually unilateral, and can be removed without unpleasant sequelæ.

Another striking case reported by Moxhay,[1] was that in which a mother who was said to have been frightened by a boy with horrible contractions of the neck gave birth to a child which had on the right side two perfect ears and three rudimentary auricles, while on the left side it had two rudimentary auricles.

1. Brit. Med. Jour., 1870.

CARE AND USE OF INSTRUMENTS.*

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TOLEDO, OHIO.

It is not my purpose to enter into a discussion of, or repeat what has been said and written on this subject, but to present a few thoughts that will indicate a way to care for and acquire the use of instruments along a line that will give the operator the kind of knowledge that will enable him to cope with exigencies that may arise.

We should remember, after an operation, to put the instruments where they are perfectly dry and will remain so, to prevent rusting, and where the edges will be kept from being dulled by contact.

Before an operation it is essential that the instrument should be sharp and clean. Boiling is unquestionably the best way to put them in this condition. The cutting edges are not spoiled by the heat, as is believed by some, but by a deposit of material upon the edge of the knife, the same as that in a kettle or boiler. This can be demonstrated by trying the edges of knives after boiling in condensed steam and in hydrant water. Where distilled water can not be obtained, when a keen edge is desired, a sterilized Arkansas or India stone should be at hand; the knife passed over it a few times will remove the deposit. "But," says the doctor "I would be as liable to dull the knife as to sharpen it." I presume this is true, through no actual fault of his own, but on account of not having been taught the A, B, C, of actual surgery. Had he been compelled to sharpen his saw, cut his wood and make his fire at home, hone his razor, and shave himself, while getting knowledge he would, at the time, have acquired the skill which is so essential to operative work. No person should be allowed to practice surgery without first having learned a mechanical trade; this would give him the skill as well as developed hands and arms, the very thing so essential in many operative procedures, a necessity so often not found in many classic scholars. A hand that has been allowed to develop to maturity, gloved without use, can never be of material service for actual work. Pancoast and many of our best surgeons

* Read by Title in the Section on Laryngology and Otology, at the Fifty-first Annual Meeting of the American Medical Association held at Atlantic City, N. J., June 5-8, 1900.

workmanlike manner, and not be able to acquire the proper use of his hand, to give the saw-teeth that keen edge so necessary for quick and painless work, by a were good mechanics prior to entering on their surgical work. The handling of tools in one line of work prepares the individual to skilfully handle them in another.

The idea is absurd that a person can possess the skill necessary to remove a spur from a septum nasi, in a stroke or two of a file or stone. Every college should have a teacher qualified to instruct the student who intends to do surgical work, in a course that will develop the fact whether he has inborn mechanical ability; if not, to advise him to have the surgical section cut out of his diploma and be relieved from building monuments for himself, in memory of a deficiency of native ingenuity and acquired skill. If, on the other hand, it is found he has been born right for mechanical work, give him a chance and, with proper starting-points, success will follow and he will be a blessing to humanity.

As we pass along to the practical part of our work, after acquiring the theoretical side, we can then appreciate the necessity of possessing hands that are educated to execute that which we theoretically know, and there is no better plan to educate the hands to follow the directions of the will, than by using them for the purpose of honing a razor, bistoury, drill and the various cutting instruments used for surgical work. The sense of touch is made keen by feeling the edge of the instrument with the palmar surface of the finger, to see if it is sharp, with the end of the nail to see if it is nicked, or carrying it at the proper angle along the upper surface of the thumb nail, to see if it is honed at the same angle on both sides.

By observing the following rules, instruments can always be kept sharp and ready for use, also time and money can be saved; and time should be valuable to all and, in our overcrowded profession, when so many have not enough money to pay their bills and procure the necessities of life, the amount saved will find a place.

When honing a knife it should be pulled from heel to point, the cutting edge leading at an angle of about 45 degrees. The reason for this is, that should there be a particle of hard substance on the stone, it will nick the cutting edge if one carries the blade with pressure along the stone with the back leading, and a knife edge is made up of a series of saw-teeth, as seen by the microscope, and will cut best by having the diamond points inclined toward the heel of the blade; and they will be properly made if honed as above described. To make myself the more clearly understood, remember that when honing a knife it should always be drawn from heel to point toward the cutting edge. When stropping a knife, it should be drawn from heel to point from the cutting edge. The movements of honing and stropping are exactly the reverse of each other. We may know the knife is sharp by the sticky feeling when the finger or thumb is drawn along it. A nick that would not ordinarily be seen can be detected by drawing the edge of the knife along the end of the nail. To remove a nick from the edge of a knife, it may be used on a coarse stone first, until the nick is cut out, and afterward on a fine stone. Steel will accumulate on the stone. To remove it, put oil on and rub clean with a cloth. I like the India oil-stone better than any other, because it cuts keener and is made of different grades, coarse, medium and fine; it can be used with oil or water and may be sterilized by boiling. It is not an expensive stone, as a large one with a coarse and fine side costs only 65 cents; the pencil point, 50 cents, and the triangular, 35 cents. They are sold in hardware stores.

We can care for knives, scissors and saws easier by having them nickel-plated, but they should not be for efficient use. Nickel does not become a part of, but only adheres to, the steel, and when a knife is made sharp or filed after it is plated, there will be a free edge left and it will peel off. It is almost impossible to give a plated saw the clearance it should have and a sharp side edge. A saw to be used on a hard bone, like an eburnated spur of the septum nasi, should have teeth no deeper than a fine one, but should be wider apart to prevent the bone from filling the interspaces of the teeth, thus preventing it from cutting. A fine-tooth saw with a short stroke will easily cut an epiphysis, but will not cut without clogging the dense bone to which it is attached.

Many a good instrument, for want of proper selection, skill to use it, or put it in shape to be used, has been retired in disgrace. There is no excuse for lack of skill in this direction, so long as the number of physicians remain in the same proportion to the work to be done and the plentiful supply of green bones of different shape and density that may be procured from butcher-shops.

Progress is rapid in surgery, especially in our important branch of it. So marked is it that we can no longer walk, but must run in order to keep pace with the advance that is being made. We must be ready to meet any change that presents itself. The instruments to be used to-day may have to be discarded to-morrow for a device to suit a better way. Who would think of heating a laryngeal or rhinoscopic mirror, when white, hard soap rubbed on it and then cleaned off with a dry napkin will leave a film of the soap sufficient to prevent the condensation of moisture from the breath upon it, answering the same purpose as heating it, and will last for several observations while heating will only last for one, and may ruin the mirror. Who would thing of using a Belocq's cannula for plugging in a case of epistaxis when a soft catheter, a kitetail plug or cauterizing the bleeding point would answer the purpose as well and cause less pain to the patient and less trouble to the operator. Simplicity of construction aids in easy use.

I remember removing a sand-burr, several years ago, from a physician's larynx, by means of a skein of silk thread securely fastened to a curved probang and, by the aid of a laryngeal mirror, carried down below the burr, then pressed toward it, when withdrawing, the burr followed. This was done after trying many times to remove it with a forceps, also having the aid of an inventor with his laryngeal forceps, with failure as a result. I received a letter from a physician shortly after his return home, stating that a boy attempted to show how he got the sand-burr in his larynx and was so successful that he put one in his own and that he removed it with a probang and skein of silk thread, at first trial.

MEDIASTINOTOMY.—At the Paris Surgical Society, Ricard recently reported an operation through the sternum on a woman on whom tracheotomy had been performed, and the cannula allowed to drop into the trachea. After vain attempts to pass it through the tracheal opening, he made a large opening in the sternum opposite the bifurcation of the trachea, bringing the right bronchus into view, but it was necessary to stop here; the patient died from gangrene of the lung.

SURGICAL DIAGNOSIS OF ABDOMINAL TUMORS.*

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MILWAUKEE, WIS.

The importance of this subject appeals to all of us and therefore no apology is needed for engrossing your attention. That diagnosis should precede operation is such a rational assumption that it has almost a natural claim upon all operators, and this claim should, whenever possible, be respected. That it does not always receive the attention and consideration it merits, will be generally conceded, and that failure in diagnosis frequently leads to unnecessary operative work and occasionally to unfortunate results, clinical records sufficiently prove. It is not possible within the space allotted to this paper to do anything more than merely sketch the most urgent necessities of this great field of surgical effort, and to invite attention to certain lines of thought which should occupy the mind of every abdominal surgeon. In doing this it will be a privilege to suggest a few new thoughts while reviewing many old ones, in the hope and to the end that they may aid, in however small the degree, in bringing us nearer the time when exploratory incision may be less frequently used than at present seems necessary, and when more confidence may be placed in the diagnostic touch of the operator who would work in the abdominal cavity.

DIAGNOSIS OF ABDOMINAL TUMORS.

In the diagnosis of abdominal tumors several requirements must be fulfilled before the diagnostician can possibly hope for even approximately accurate results, and for the purposes of this paper I have arbitrarily placed these requirements in the following order: 1. A knowledge of the shape and boundary of the cavity itself. 2. A knowledge of the normal location, physical outlines and physiologic functions of the organs of this cavity. 3. A reasonably comprehensive knowledge of those tumors which frequently, as well as those which infrequently, affect these organs. 4. Familiarity with the recognized methods of examination coupled with system and exactness of procedure. 5. A developed faculty capable of exhibiting co-ordinate and harmonious action on the part of the physical and mental being of the examiner.

The first of these conditions I will simply refer to in a general way, by assuming that the word abdominal includes the term pelvic, and that the two cavities are to be regarded as one field, the boundary of which is the peritoneum. Without a very clear conception and bright mental picture of this cavity, no mind is capable of properly dealing with the multiple and complex conditions which may be found within. Before attempting to examine the contents, we must first thoroughly understand the outlines and limits of the cavity itself. In referring to the second requirement, it is perhaps superfluous for me to say that in order for us to be able to make out pathology, it is absolutely necessary that we be familiar with histology; in order that we may be able to define abnormalities, we must be sure of the normal outlines; in order that we may be able to establish disease, we must be conscious of the definition of health. All this implies and includes an anatomical, physiological and topographical knowledge, not alone of the organ suspected of disease, but of all the organs of the abdominal cavity, for the intimate anatomical and physiological relations existing between these organs necessarily imply and predicate the influence of one upon another, both in health and disease. We can readily understand how the normal functions of these organs must of necessity influence not alone their own physical outlines, but the physical outlines of the organs in their immediate vicinity. A distended stomach, bladder or bowel surely affects the anatomical relation of its neighboring organs, and not infrequently disturbs their physiological functions. A greatly enlarged organ disarranges the entire anatomical plan of the abdominal cavity. Therefore, before searching for tumors, let us satisfy ourselves as to the existing conditions of the normal contents of the cavity.

KNOWLEDGE OF GROWTHS WHICH ARE DISPOSED TO AFFECT DIFFERENT ORGANS.

With a comprehensive knowledge of the cavity, its normal and natural contents, we are in a position and prepared to recognize the evidences of abnormal growths which may present themselves. This knowledge, attained through a physical examination of the subject, is largely limited to a determination of the shape, size, location and probable consistency of the tumor, leaving us still very far from the ultimate and desired information. If, however, we now add to this information a knowledge of the growths likely to be met with in connection with any organ, coupled with the ability to eliminate growths not likely to be met with, we have done very much toward bridging the space between the known and the unknown. Thus, if the tumor be connected with the stomach, especially with the pyloric end, we are warranted in suspecting carcinoma and in eliminating all benign growths.

If the tumor be connected with the liver, our thoughts naturally go to the possibility of an enlarged gall-bladder. If the liver itself be enlarged, we naturally think of cirrhosis, or primary carcinoma, abscess, etc., but we would not think of associating fibroma or myoma with the condition under examination. If the growth be found associated with the ovaries, tubes or uterus, almost instinctively we are forced toward the idea of cysts, infected tubes or fibroids, seldom giving the possibility of malignancy more than a passing thought. We must now carefully weigh the evidence obtained through the physical examination, modify it by our own knowledge of the probabilities in each case, and draw conclusions in accordance with sound reasoning, based on reasonably certain premises. Very frequently the surgeon will be greatly mystified by the apparently contradictory evidence obtained, and he will be at a loss for conclusions. This is unavoidable as, for illustration, an enlarged spleen may be due to simple hypertrophy, cysts, malignant disease, leucocythemia or ague cake, any one of which may be responsible for the physical signs present, but usually there will be found in connection with each case, something either in its general or special history or in the shape or consistency of the tumor which will guide the diagnostician aright if he but possesses the necessary patience and perseverance. True, many cases will defy diagnosis even when handled by the expert, but this is to be expected, and when such cases are seen, the surgeon must do the best he can. As an instance of this sort, I would cite a case which fell into my hands some three years ago.

A young man complained that for a number of years he had been troubled by the occasional presence of a

* Read before the Section on Abdominal Surgery, at the Third Pan-American Medical Congress, held in Havana, Cuba, Feb. 4-7, 1901.

tumor in the right hypochondriac region. The tumor varied in size, being much larger at times than at others, caused considerable uneasiness when present and usually disappeared in from two to three days after its appearance. The young man's physician had observed the tumor, made a careful examination and, in the absence of any other probable theory, made the diagnosis of enlargement of the gall-bladder, due to some obstruction in the cystic duct, interfering with the free escape of the normal secretions of the sac. Upon my first examination no evidence of tumor could be found. The patient was advised to remain in the hospital until the recurrence of the enlargement, which came on the sixth day after he had presented himself for examination. Immediately beneath the liver, and apparently growing from it, an oblong tumor was easily outlined, seemingly about 6 inches in length and 2 in diameter. It was uniformly smooth on the surface and gave to the touch, on pressure, a sense of bogginess. It remained for three days and then, as usual, disappeared. During its stay several attempts were made to isolate this apparent growth from the liver, without success. After its disappearance an incision was made directly down upon the region where the tumor had been, when the unusual condition of the bowel to the length of about 2 inches was found adherent to the under surface of the liver, probably congenital in history. This looping up of the bowel at times acted as an obstruction to the free passage of the bowel contents, thus creating a tumor which disappeared as soon as the contents finally succeeded in passing. This is but one of the many unlooked for conditions we are called upon to deal with, and we know of no rule or advice that is likely to help us, except perhaps common sense.

METHODS OF EXAMINATION COMBINED WITH SYSTEM AND ACCURACY OF OBSERVATION.

With the foregoing conditions satisfied, the surgeon is in a position to proceed with his examination and, to the end that his conclusions may be reliable and correct, he must follow some systematized method and be reasonably accurate in his observations. Surgeons too often take things for granted and develop conclusions without first having established the proper premises. Such conclusions must necessarily often be faulty, and *any* practice based on them must be unsatisfactory.

We have found that attention paid to the following subdivisions will lead the surgeon to satisfactory conclusions and reasonably accurate diagnosis: 1. History of case. 2. General appearances of the patient. 3. Special appearances of the abdomen.

The history of the case very frequently suggests the character of the growth, but this suggestion must not be relied on as a sufficient basis for diagnosis, but rather may be utilized as a guide in leading us to the nature of the disease. The patient's description of his first consciousness of the disease, the time of development, the character of the pain, if any, the organ most particularly affected, the general effect on the system, etc., are all pregnant with suggestions as to the nature of the tumor, but we must never forget that they are but suggestions. The general appearances of the patient must not be overlooked or omitted. It is a fact well established and recognized that certain abdominal growths produce well-defined facial expressions as well as characteristic hues of the skin—the facial puffiness of enlarged liver, the facial bogginess of ascites produced by the influence of any general encroachment on the heart, the cyanotic countenance, the cachexia of carcinoma and the jaundiced condition produced by interference with the biliary circulation are among the many of which we must take cognizance.

SPECIAL APPEARANCES OF THE ABDOMEN.

In the diagnosis of abdominal tumor, the diagnostician must not content himself with the outline and size of the growth, but should earnestly endeavor to determine and satisfy himself from what part of the body it has sprung, and its possible or probable influence on neighboring or adjacent organs. He will thus be enabled to clear up and account for all the symptoms exhibited in the case, and consequently will have removed all doubt as to the diagnosis. To do this, patience, perseverance and gentleness are necessary. With the patient before us in the proper position, our first inquiry should be directed to the general outline of the abdomen. In this inquiry must be included the condition of the abdominal wall—the absence or presence of any special thickening—and, when such thickening is found, its probable cause must be considered; the presence or absence of any special indication of tumors lying beneath the wall. In this connection it must not be forgotten that the absence of external indications of abdominal tumor is no evidence that such a tumor does not exist, and on the other hand we are often deceived by appearances which seem to point conclusively to abdominal tumor, but which, on later being traced to their real sources, are easily accounted for.

Our next information must come through the sense of touch, and in this we should encourage and practice the greatest gentleness; even were it not true that serious consequences occasionally follow undue and unnecessary pressure in examination, there could still be found no excuse for avoidable clumsiness and unwarranted roughness, especially when we can secure better results by gentler means.

By careful, gentle and uniform pressure over the abdominal wall, the tumor, if present, will soon be located; if large, its nature will with little difficulty soon be found out—in short, it is that developed power which enables one to remain unconscious of the intervening wall between the hand and the part being examined, thereby permitting a more careful and reliable conclusion as to the existing conditions. It is the faculty which enables the gynecologist to use the uterus as a connecting medium between his hand and some growth in the abdomen, to determine the nature, size and consistency of this growth. It is the faculty which aids us in approximating the size, shape and, oftentimes, the consistency of any growth with which we are dealing. Words can not describe it; reading can not develop it; thought will not acquire it. It is the one faculty which must of necessity come to us through patient and persistent effort, and the close study of those niceties which go to make up the good diagnostician.

ANESTHETICS IN EXAMINATION.

The value of anesthetics in the examination of the abdomen, except in rare cases, is not well established. We easily recognize the advantages they afford, but we also recognize the disadvantages and dangers attending their use. They remove, it is true, the muscular resistance of the patient, but in doing so they have also removed the evidences of sensitiveness and the pain of diseased organs, which are often the surgeons' only guide to conclusions. To this we must add the usual dangers, however small, connected with the use of anes-

thetics, and the special possibility of doing harm, through our manipulations to unconscious patients, which might be avoided or prevented were we dealing with the conscious, sensitive and resisting subject. Failing in our first effort to complete the diagnosis, or to satisfy ourselves as to the true nature of the case, we must repeat the examination and exhaust every means before we admit failure.

When all efforts along these lines have proved unavailing, we are then—but not till then—warranted in subjecting the patient to the very useful, though oftentimes unnecessary, exploratory incision.

In conclusion, I desire to say that this paper has not been written upon the presumption that it would instruct, but rather on the assumption that as "constant dropping wears the stone," it may be regarded as at least a drop in the removal of those obstacles which lie between us and correct abdominal diagnosis, and which have exposed us to the doubtful compliment paid us by European surgeons, of being good operators but poor diagnosticians.

A CONTRIBUTION TO THE STUDY OF MOUNTAIN FEVER.*

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I find in the arid plateaus of the Rocky Mountains three types of fever that predominate during the summer and fall. These more prevalent forms of febrile disturbances are familiarly known as malaria, typhoid and mountain fever. It is true that malarial fever is found to exist throughout the entire year, but it is more prevalent during spring, summer and autumn. We are not yet prepared to say that mountain fever is or is not a modified type of typhoid or malarial fever. Whether or not it is a relative to these diseases, the writer is satisfied that it has enough distinctive features, peculiar to itself, to warrant it in being worthy of separate consideration.

It is not the purpose of the writer in this contribution to attempt to defend the so-called "mountain fever" against those who may disclaim its existence. As a member of the medical profession, I feel it is my duty to record the clinical facts as they present themselves, regardless of my own or any one else's personal prejudice for or against it, with a view of determining, as far as possible, its symptomatology, etiology and pathology.

"Mountain fever" is characterized chiefly by a sudden attack of malaise, followed by a chill, a sharp rise and fall of temperature, often to unusual extremes; occipital headache with pain shooting down the back, but seldom accompanied with loss of consciousness or associated with epistaxis. There is some gastro-intestinal irritation which seems to be confined more particularly to the stomach and transverse colon. There is rarely enteric hemorrhage or vomiting, and it is only occasionally associated with tympanites.

Usually between the tenth and fifteenth day a peculiar eruption appears which extends over the upper extremities, the anterior and posterior portion of the chest, the abdomen, the back, the hips, the thighs and, not infrequently, the legs. The eruption first consists in a small bright red spot between the size of a pinhead and a split pea, and under the finger feels like a small grain of shot in the skin, which is slightly raised at the point of discoloration and is neither vesicular nor pustular. In from three to five days it begins to fade and turn from a red to a dirty brown color. The shotty feeling gradually disappears, the discoloration slowly subsides, and in from seven to ten days more it disappears entirely, this generally marking the initiation of the convalescence, which requires from ten to twenty days longer, making the usual course of the disease range from thirty to fifty days.

I have met cases which to all intents and purposes appeared to be "mountain fever" in which this eruption did not appear, but where the prevailing symptoms indicated this form of fever. Likewise, there is an occasional case where we have epistaxis, but in the majority it does not appear, while hemorrhage from the bowels is practically unknown in this form of continued fever.

Nervousness resembling paralysis agitans is more or less marked according to the severity of the case, and usually lingers well into convalescence. The tongue is coated with a grayish, yellowish fur, but rarely becomes dry and brown, and sordes is seldom present.

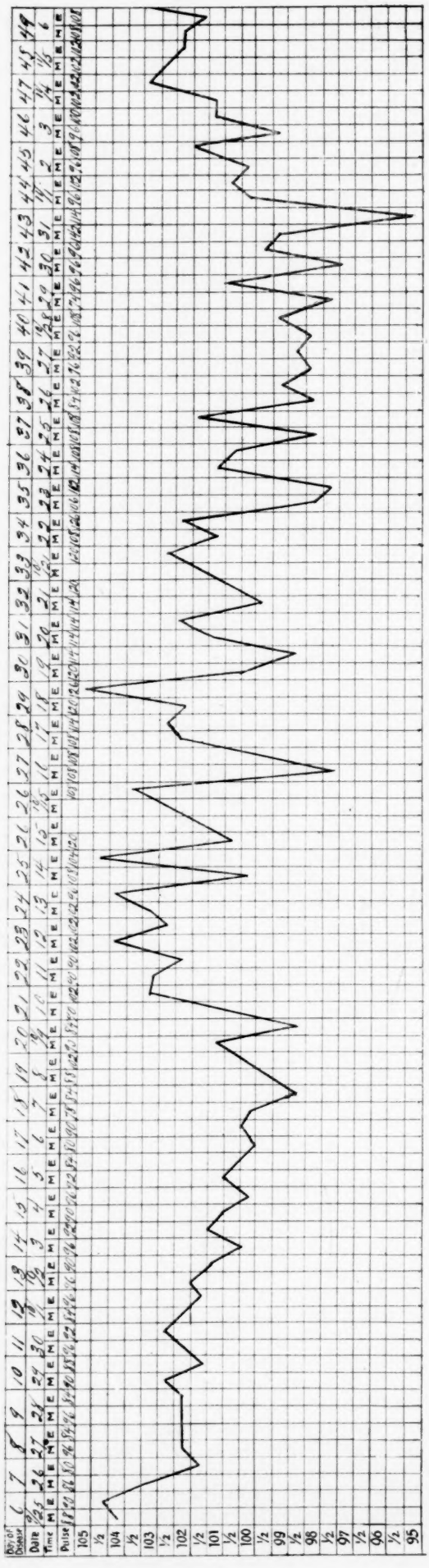
ETIOLOGY.—The cause of mountain fever is not at all well understood, and it is to be hoped that in the near future continued and impartial investigations will lead to a definite conclusion as to its true cause and real place in the rôle of diseases.

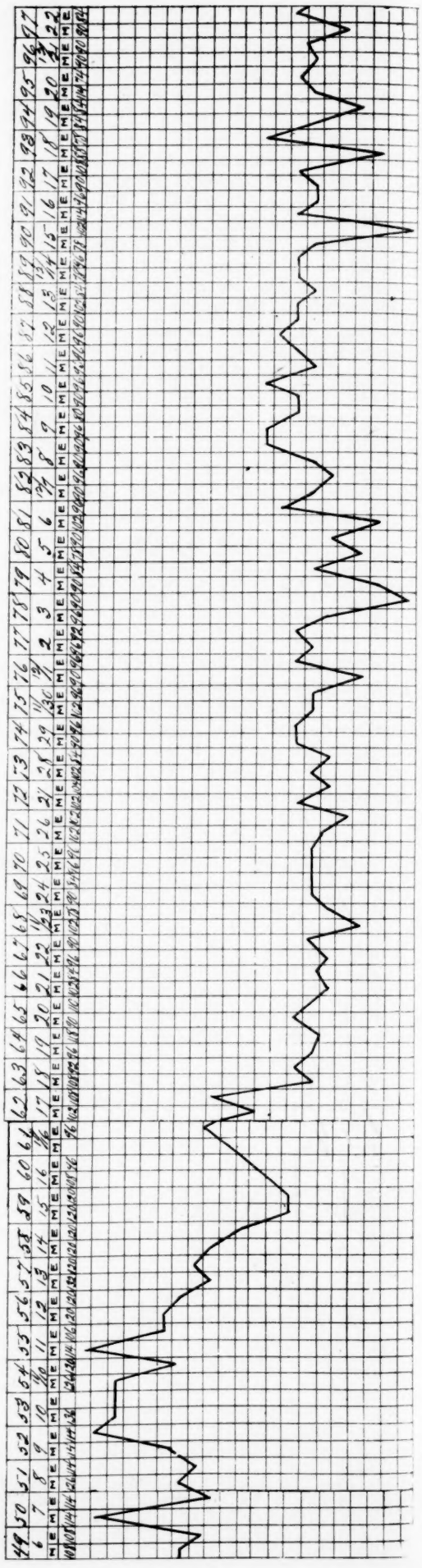
In this connection, through the courtesy of Dr. Geo. M. Sternberg, Surgeon-General of the United States Army, there were twenty examinations made of the blood of patients being treated in the Wyoming General Hospital in which the diagnosis was that of "mountain fever." Of these cases, which ranged over a period of two years, 12 gave negative reactions with Widal's test and 7 positive. During the same period there were 13 examinations made of cases being treated in the same hospital, diagnosed as typhoid fever, in which there were 2 negative and 11 positive reactions. While these examinations are not yet conclusive, they are sufficiently so to show that there is certainly a difference as to the causes producing typhoid and "mountain fever," and while it is possible to mistake the one for the other, at the same time the distinction between the two is sufficient to make them, as a rule, easily differentiated the one from the other.

Knowing, therefore, that typhoid fever is the result of infection with Eberth's and Gaffky's bacillus, and the fact that out of 13 cases examined during a period of nearly two years, all but 2 gave a positive reaction, while of 20 cases of "mountain fever" treated during the same period, all but 7 gave negative reactions, would lead us to believe at least that mountain fever was not produced by the same cause as typhoid. Fortunately for the patients, but unfortunately for the sudy of the disease, "mountain fever" has not been found to be a fatal disease, the writer never having seen a fatal result in over one hundred cases which have come under his observation during the past three years.

PATHOLOGY.—For reasons already mentioned, in speaking of the etiology, the pathology is not at all well understood. It seems to be a disease which effects the stomach and transverse colon, and is particularly marked in the nervous system, producing a condition that simulates paralysis agitans as compared with subsultus tendinis of typhoid. To further aid in the study of this disease I beg leave to submit for inspection the following clinical charts, showing the range in tem-

* Read before the Fourth Annual Meeting of the Wyoming State Medical Society, held at Cheyenne, Wyo., Oct. 9 and 10, 1900.





Case 572.—Typhoid fever. Positive reaction.

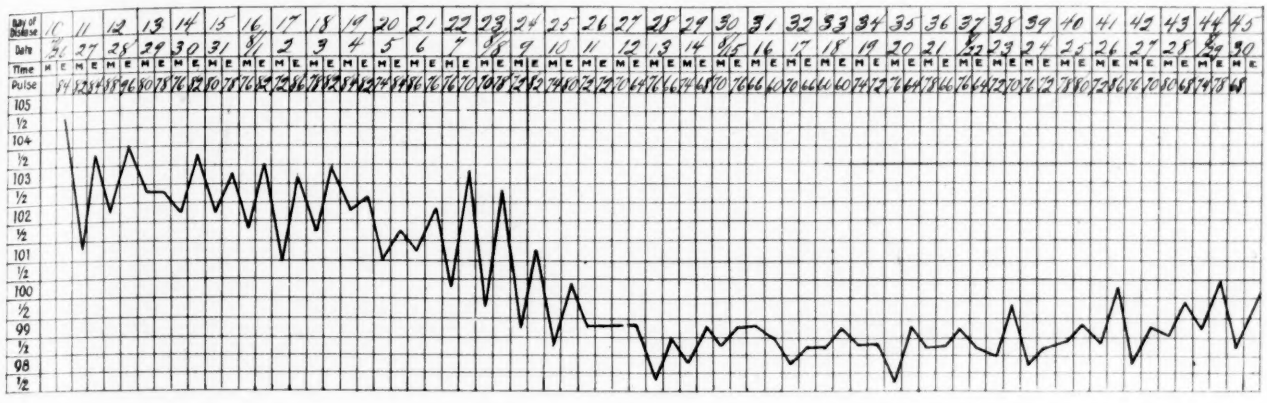
perature in mountain fever as compared with typhoid. These charts have not been made from selected cases, but are simply what might be considered fairly representative cases of each of the two diseases, in which have been included the more difficult as well as some of the milder forms of each.

Case 572 shows a positive reaction with Widal's test. This was an unusually malignant case of typhoid fever, covering a period of 102 days, with a range of temperature varying from 105 to 95 F., a difference of 10 degrees in the extremes.

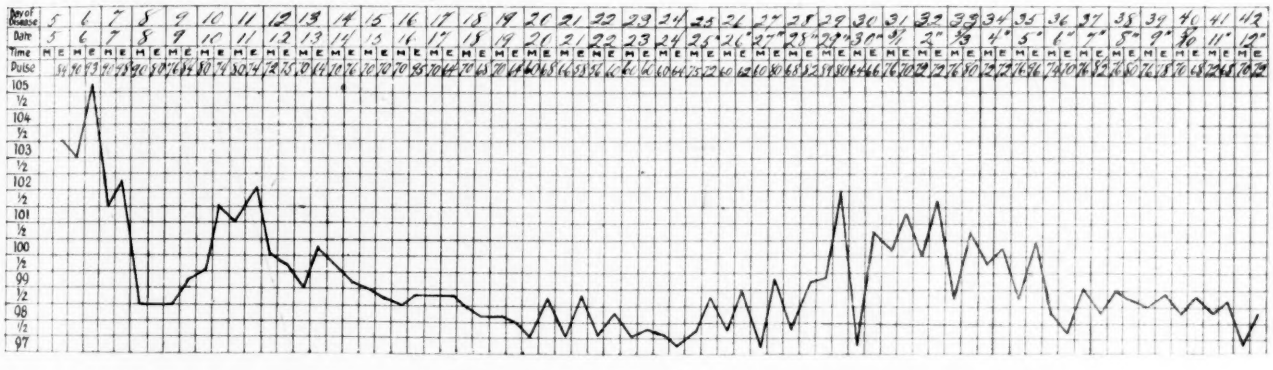
In these four cases of typhoid fever we have the following extremes of temperature: Case 572, 10 degrees; case 413, 7.5 degrees; case 874, 6.5 degrees; case 608, 6 degrees, or an average of 7.25 degrees F.

In reviewing the cases of "mountain fever" we find that:

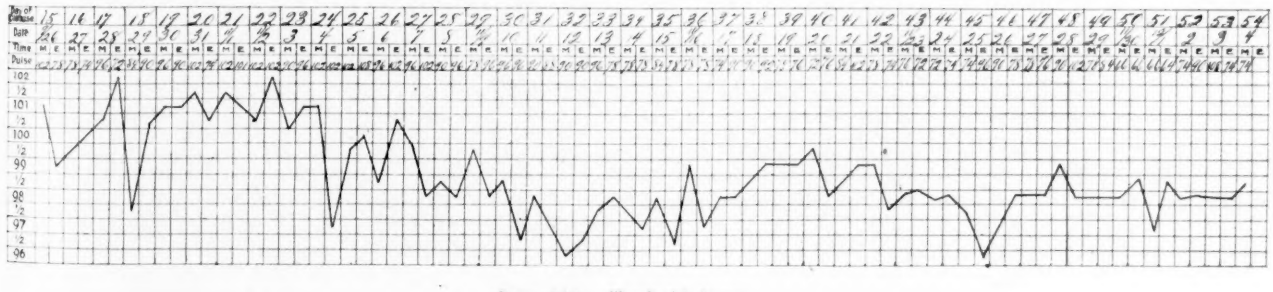
Case 902 gave a negative reaction with Widal's test, and ran a course of only eighteen days, but had a variation of temperature ranging from 103 to 97 F., being an extreme of 6 degrees followed with recovery.



Case 874.—Typhoid fever.



Case 413.—Typhoid fever.



Case 608.—Typhoid fever.

with numerous severe hemorrhages, finally followed by recovery.

Case 874 shows a positive reaction with Widal's test, ran a course of forty-five days with a range of temperature varying from 104-5 to 98 F., a difference of 6.5 degrees between the extremes, terminating with recovery.

Case 413 gave a positive reaction and only ran a course of forty-five days, showing a range of temperature varying from 104.5 to 97 F., a difference of 7.5 degrees between the extremes, terminating with recovery.

In case 608 no test was made. This case, however, ran a course of fifty-four days with a variation of temperature ranging from 102 to 96 F., a difference of 6 degrees in the extremes, and was followed by recovery.

Case 441 gave a negative reaction, ran a course of forty-three days, and had a range of temperature varying from 103 to 97 F., a difference in extremes of 6 degrees and was followed with recovery.

Case 573 gave a positive reaction, ran a course or thirty-four days and showed a variation of temperature ranging from 103.5 to 95 F., a difference in the extremes of 8.5 degrees making a good recovery. This case, according to Widal's test, should have been diagnosed typhoid fever, but owing to the sharp and decisive range of temperature was considered "mountain fever" by the writer, as it lacked the roof-cone ascending and descending temperature.

In case 556 no test was made. This case ranged over a period of twenty-eight days and showed an extreme of temperature

ranging from 106 to 96, a difference in the extremes of 9 degrees, and was followed with recovery.

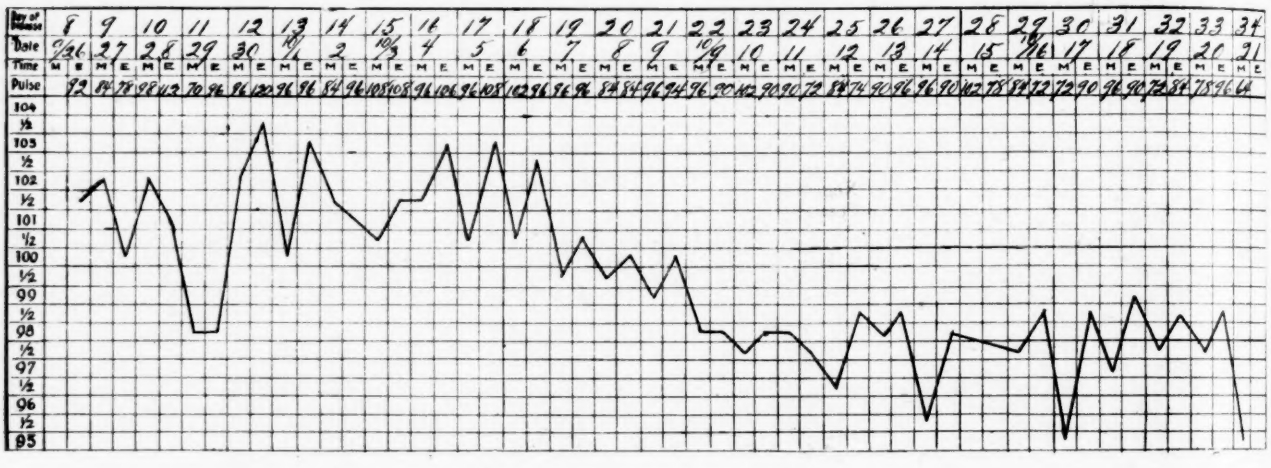
In observing these temperatures it will be clearly evident that there is a sharper and more irregular rise and fall of temperature in the so-called "mountain fever" than in typhoid, the latter having a more gradual ascent in the majority of cases until it reaches the climax, when it takes a more gradual descent until resolution is established.

In these four cases of "mountain fever" we have the following extremes of temperature: Case 902, 6 degrees; case 441, 6 degrees; case 573, 7.5 degrees; case 556, 9 degrees, or an average of 7.3 degrees F.

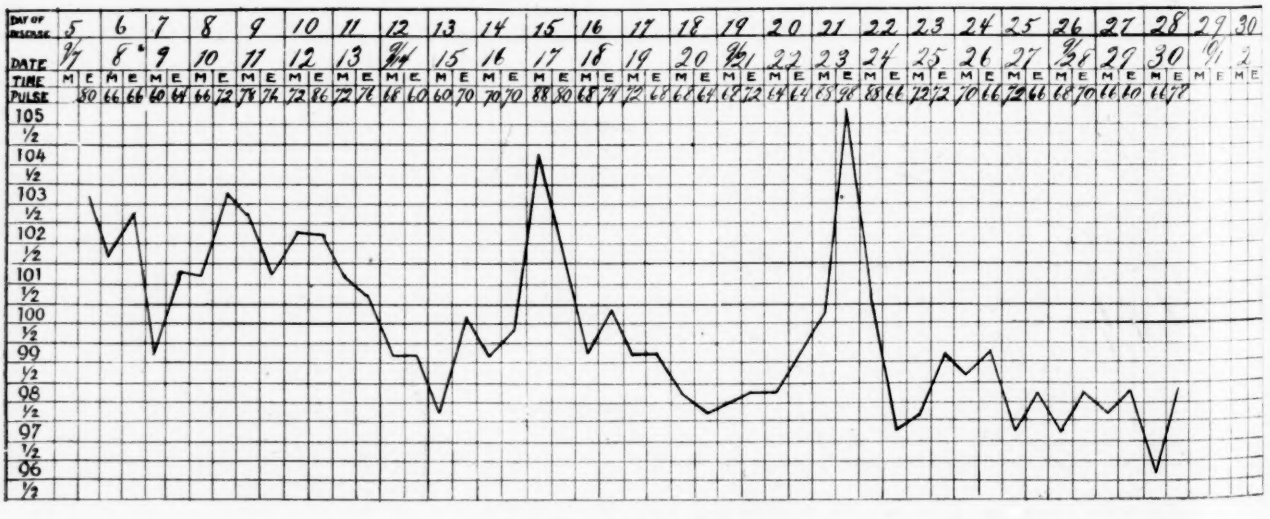
While the average variation of temperature in these cases is practically the same, it extends over an average of sixty days in four cases of typhoid fever and only over an average of thirty days in the same number of cases of "mountain fever," thus making the variation more abrupt when we consider the number of days the patient was sick with "mountain fever" compared with those of typhoid.

I herewith submit a tabulated report of forty examinations of the blood of thirty-two patients, made under the direction of Surgeon-General George M. Sternberg, and extending over a period of nearly two years. It is as follows:

Case 441.—Mountain fever.



Case 573.—Mountain fever.



Case 556.—Mountain fever.

REPORT OF WIDAL'S TEST IN ORDER OF DATE, MADE AT THE SURGEON-GENERAL'S OFFICE, WASHINGTON, D. C., OF SAMPLES OF BLOOD SUBMITTED BY R. HARVEY REED, M.D., OF PATIENTS UNDER HIS CARE AT THE WYOMING GENERAL HOSPITAL, ROCK SPRINGS, WYOMING.

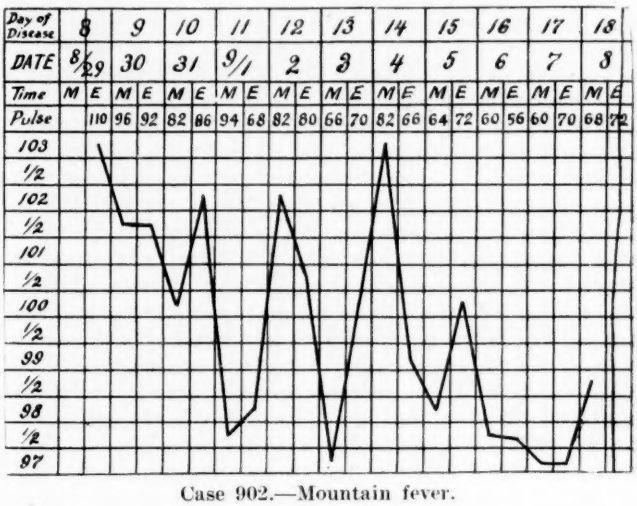
Case Number.	Date Blood Was Drawn.	Diagnosis Made Prior to Widal's Test.	Reaction.
379	3-5-99	Mountain fever	Negative
413	4-6-98	Typhoid fever	Positive
427-a	4-27-98	Mountain fever	Negative
427-b	5-17-98	Mountain fever	Negative
441	5-17-98	Mountain fever	Negative
472	6-21-98	*Malarial fever	Negative
520	8-15-98	*Varicocele	Slight Agglutination
526	8-17-98	Mountain fever	Negative
500-a	8-26-98	*Malarial fever	Negative
500-b	8-26-98	*Malarial fever	Negative
572	9-30-98	Typhoid fever	Positive
573	9-30-98	Mountain fever	Positive
576-a	9-30-98	Mountain fever	Incomplete
577	9-30 98	Mountain fever	Negative
580	9-30-98	*Gastralgia	Positive
576-b	10-17-98	Mountain fever	Positive
583	10-17-98	Mountain fever	Positive
596	10-17-98	Typhoid fever	Positive
597	10-17-98	Typhoid fever	Positive
661	12-13-98	Mountain fever	Negative
783-a	5-16-99	Mountain fever	Negative
783-b	5-16-99	Mountain fever	Negative
823	6-1-99	*Acute bronchitis	Negative
845	6-30-99	Mountain fever	Negative
851-a	6-30-99	Mountain fever	Positive
851-b	6-30-99	Mountain fever	Positive
853	6-30-99	Typhoid fever	Negative
874	7-29-99	Typhoid fever	Positive
887	8-18-99	*Remittent fever	Positive
899	8-29-99	Mountain fever	Positive
902	9-2-99	Mountain fever	Negative
905	9-2-99	Mountain fever	Negative
930-a	9-29-99	Typhoid fever	Positive
931-a	9-29-99	Typhoid fever	Positive
930-b	10-7-99	Typhoid fever	Negative
931-b	10-7-99	Typhoid fever	Positive
930-c	10-16-99	Typhoid fever	Positive
948	10-16-99	Typhoid fever	Positive
964	10-29-99	Mountain fever	Positive
967	10-29-99	Typhoid fever	Positive

Of these forty examinations in thirty-two cases I submit the following table of comparisons:

Name of Disease.	Negative.	Positive.	Incomplete.	Total.
Mountain fever	12	7	1	20
Typhoid fever	2	11	0	13
Malarial fever	3	0	0	3
Varicocele	0	0	Slight agglutination	1
Gastralgia	0	1	0	1
Acute bronchitis	1	0	0	1
Remittent fever	0	1	0	1
				40

By this table it will be seen that 84.6 per cent. of the cases of typhoid fever when tested showed a positive reaction, while only 15.3 per cent. showed a negative reaction. On the contrary, of the so-called "mountain fever," 60 per cent. gave a negative reaction and 35 per cent. a positive, and 5 per cent. an incomplete reaction. It is also interesting to note that the case of gastralgia gave a positive reaction as well as the one of remittent fever, while the case of varicocele showed a slight agglutination.

In concluding this contribution to the study of "mountain fever" there is apparently a marked difference between typhoid and "mountain fever" in a few particulars, of which the following is probably the most marked: 1. In the reaction with Widal's test a large majority of cases show a positive reaction in typhoid fever, while in mountain fever the majority of tests show a negative reaction. 2. The mortality is much greater in typhoid than in "mountain fever." 3. The average duration of the disease is greater in typhoid than in "mountain fever." 4. The cause of "mountain fever" does not seem to be due to the presence of the Eberth and Gaffky bacillus. 5. The rise and fall of temperature in "mountain fever" is more abrupt than



Case 902.—Mountain fever.

that of typhoid. 6. Tympanites is nearly always present in typhoid and seldom present in "mountain fever." 7. Epistaxis is common in typhoid, but rare in "mountain fever." 8. Enteric hemorrhage is seldom met with in "mountain fever," but common in typhoid. 9. The eruption in typhoid fever is usually confined to the abdomen, is not raised and disappears readily on pressure, returning promptly when the pressure is relieved, while the eruption in "mountain fever" covers almost the entire body, is raised and has a shotty feeling under the finger, and does not disappear on pressure.

From these few differential points which the writer has observed in the study of these diseases, which have occurred in the same community, which have been treated side by side in the same hospital or cared for at their homes, while they belong to the same type of disease, both being continued fevers, both usually occurring in the summer and autumn, yet, he is compelled to look on them as being at least different conditions of the same, if not entirely distinct, maladies produced by separate and distinct causes.

*Note—The blood from the three cases of malarial fever, one each of varicocele, gastralgia, acute bronchitis and remittent fever were purposely sent to ascertain the result of Widal's test in diseases other than typhoid fever.

A STUDY IN THE HEMATOLOGY OF NEURASTHENIA.*

CHARLES HOWARD LODOR, A.M., M.D.
CHICAGO.

The title neurasthenia would seem to cover a pathologic condition far more widespread than the term itself might indicate. There is scarcely an organ or tissue in the body which does not show more or less deviation from the normal.

In taking up its hematology, facts appear which of themselves are confusing and contradictory. One of the first symptoms noticeable in neurasthenia is the evident anemia or, if not anemia, hemic change. In an able and suggestive article published in the *Medical Record*,

* Read before the Chicago Neurological Society, Dec. 20, 1900.

June 25, 1898, Mary Putnam Jacobi points out that many neurasthenics, and also patients evidently anemic, have a very high blood count, and gives the history and count of several patients where the reds were over 5,500,000. One patient, a palid neurasthenic, had a red count of 6,660,000; whites, 37,777. Following suggestions of Dr. S. Weir Mitchell, Dr. J. K. Mitchell has made a very careful and exhaustive study of many neurasthenics, finding a large per cent. of them evidently anemic, and yet with a blood count either normal or supranormal. Such observers as Mitchell, Oliver, Cabot and Cheron Vigoroux have noticed and noted the changeableness of the red count owing to variation in the condition of the blood drop after massage, static electricity, etc.

It is curious that it never occurred to these careful observers to put together the results obtained by the various means of blood examination. No tissue of the body is so changeable or so changing as the blood, and before any fair conclusions can be drawn certain facts of its condition must be obtained, as: 1, its specific gravity; 2, its chemical composition; 3, rate of flow and caliber of vessels, including vasomotor control, as the red and white corpuscles do not move with the same velocity, the white tending to lag and stick against the blood-vessel wall; 4, temperature of the part furnishing blood for examination; 5, number of reds and number of whites; 6, hemoglobin value in color; 7, bulk value of corpuscular elements as determined by the hematokrit; 8, biochemic activity of the cell as manifested by its ability to take up acid or alkaline staining reagents; 9, the age of the corpuscular elements, a point not practically discoverable clinically, but bearing largely on the condition of the patient and possibly discoverable by *a priori* reasoning, as I purpose showing subsequently; 10, its bacteriology.

In experimental work done by Drs. John Holdam and J. Lorrain Smith[1] to determine the different oxygen capacities of red blood corpuscles, several data were obtained which aid in discovering the age of corpuscles. When blood is centrifugated, the heaviest corpuscles naturally are thrown to the periphery. These observers took specimens from this heavy outer layer of corpuscles and found that they had an increase of 20 per cent. of oxygen-carrying capacity over the layer near the center of centrifugation. The size of corpuscles, according to their statements, in no way influenced oxygen-carrying capacity. A still more interesting point was the fact that blood drawn from animals previously bled had a higher oxygen capacity than that obtained before such bleeding. While such facts were noted, the evident conclusion was not drawn, namely, that the heavy corpuscles were the new ones and the light corpuscles with enfeebled oxygen-carrying capacity were old.

Premising so much, I turn to observations made first in the examination of choreics and afterward carried on in neurasthenics. Patients coming into the examining-room from an outside temperature below freezing showed for some time a marked decrease in the solid constituents of the blood, amounting not infrequently to 10 per cent. by bulk, as shown by the hematokrit over readings obtained in former examination; not only this, but apparently an increase in the proportion of reds over whites. When the patient was thoroughly warmed this discrepancy disappeared. Patients examined after Franklinization showed a decided increase in the bulk of solids and number of reds over readings obtained before the electricity was used. Immersing the hand of a well-warmed patient into cold water rapidly lowered the bulk of reds in circulation. From many examinations made, both in health and disease, it was found that cold uniformly lowered the bulk of solids in peripheral blood and increased the apparent quantity of reds over whites. On the other hand, warmth restored the balance, and massage and electricity uniformly raised the bulk of solids above normal for the individual, thus giving a sway from the abscissa line 0 normal, to from 2 to 10 per cent. below to 2 to 10 per cent. above. A natural deduction would be that some attention should be given and allowance made in the blood count in patients with cold, clammy hands and extremities. The small size of blood-vessels and the vasomotor constriction seen in some neurasthenics may account for part of the apparent hemic disturbance. Furthermore, change of atmospheric pressure materially changes the number of reds, as might be expected. A marked increase in the quantity of solids in the blood from a finger was always obtained by rotating the arm rapidly. Removal of a patient to an altitude causes reds to appear in greater number in peripheral vessels, so that the remarkable gain noted at times in the hemic condition of patients taken to altitudes may be and probably is factitious, due to the altitude and not to an actual increase in the number of reds in the general circuit.

Going back to the study of the red blood column, as shown in the hematokrit, and studying it more in detail, there seem to be three areas in it in normal blood: a heavy one found at the periphery, a middle-weight area in the center, and a lighter-weight area at the proximal end of the clot.

I find that blood taken from these three areas varies much in its capacity to take up acid stains. The heavy blood from the periphery stains deeply and quickly and evenly with the acid stains. The middle area stains fairly well with acid stains and blood from the proximal end of the tube but slightly. There are certain other features of the blood from this last area which attract attention. The corpuscle itself is exceedingly lean, oftentimes almost dumbbell-shaped when on edge, and does not stain evenly. The cytoplasm is apparently pushed to an outside rim with the cell wall collapsed and touching in the center, the cell contents having lost almost all biochemic activity.

Putting the findings together, namely, that in normal blood we have circulating red cells of very uneven value and that some of them are heavy and stain well, that in an animal bled and allowed to recuperate we have a great preponderance of heavy red cells staining deeply, and that in both instances the heavy cells have a greater oxygen-carrying capacity, the conclusion would seem inevitable that these heavy cells are new or recently formed.

Applying these facts, and conclusions legitimately drawn from these facts, to findings in the examination of the blood of neurasthenics, it would appear possible to reconcile many statements apparently diametrically opposed. In all cases coming under my observation there seems to be some hemic disturbance, no matter whether the case has as a basis an autotoxemia, a toxemia as a sequel of preceding disease, or is apparently purely acquired or is of distinctly hereditary type. Each type may have some particular prominent symptom, a sexual one or gastric one, but be the type or special symptom what it may, if the disease persists any length of time there presently appears a condition of blood fairly constant and typical of the disease. The reds may or may not be reduced in count, at times may be even above

1. Jour. of Phys., 1894, p. 465, etc.

count, but the individual erythrocyte has undergone a change so that it resembles the cells in normal blood, which I have called, for want of a better name, old cells. In many cells the cytoplasm in stained specimens seems pushed out to the periphery to such an extent that the cell becomes dumbbell-shaped instead of the normal lenticular or biscuit shape. As a result the cells pack together closely and show a marked diminution in volume by the hematokrit. The oxygen-carrying capacity is lowered, and in consequence the hemoglobin is deficient in color test. The blood in neurasthenia then would seem to be poor in oxygen-carrying capacity and not only this, but, owing to the poor vasomotor control, the peripheral blood at least varies much in its character. Time and again I have noticed the blood issuing from a puncture, not well mixed so that serum came first and then, apparently, a mass of corpuscles. Such findings lead at once to speculation. Certainly many cases of neurasthenia have some form of toxemia as an underlying cause. The value of all means of hemogenesis is at once apparent and, if it were necessary, further proof is furnished for the value of massage, electricity and overfeeding.

INTUBATION OF THE LARYNX, WITH PERSONAL REMINISCENCES.*

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Professor of Medicine, Clinical Medicine and Laryngology, Medical Department Colorado State University.

DENVER, COLO.

March 20, 1885, it was my privilege to present a paper on the intubation of the larynx to the Chicago Medical Society, and to illustrate the operation on the cadaver. Through the courtesy of Dr. Joseph O'Dwyer, of New York, now deceased, who was experimenting with this operation in the hospitals of that city, I was provided with the crude and primitive instruments then in use.

My first operation was performed April 19, 1885, on a child 2 years old, choking to death with diphtheritic croup. My assistants were an old lady, who held the patient on her lap, and a boy 12 years old, who held the gag and steadied the head. I had never seen the operation done, yet, with these poor and untrained assistants, the tube was successfully introduced on the third attempt, giving prompt and immediate relief. This was the first intubation performed west of New York City, and probably the first ever done in private practice. Previous to this time the mortality of diphtheritic croup, without surgical interference, was almost 100 per cent. It was the most fatal and the most dreaded of all diseases of childhood. Occasionally a patient would struggle through the disease, but it was a rare event. I well remember having been called to a boy, 10 or 12 years old, who was choking to death with this disease. He was rolling and tossing about the bed, purple, gasping for breath, and clutching at the throat in a vain attempt to find relief. I begged, implored and argued with the mother, an Irish dame, for permission to open the trachea to give the poor lad relief. She obstinately refused, saying: "I would ruther see me bye die than have his wind pipe cut." This statement illustrates the prejudice that prevailed against tracheotomy.

I took my departure, after prescribing an emetic, not being willing to stand idly by, with hands tied, to see the boy strangle to death. A few days later I learned that he was well. In his last violent effort for life he succeeded in expelling a membranous cast of the larnyx and trachea and recovered. Those of us who practiced medicine in those days, know full well that such recoveries were very rare, almost like "angels' visits." When tracheotomy was performed the mortality was somewhat reduced. It was generally estimated that in well-selected cases it amounted to about 75 per cent., but in private practice I had saved but one out of twenty operations, and of 300 operated on in Chicago, the recoveries had been only 9 per cent., a mortality of 91 per cent. Confronted by these facts and this fearful mortality, I felt justified in taking any risk, however great, in the hope that better results might be attained.

My first case terminated fatally. My second operation was performed April 23, 1885. The tube, which was one of the early ones, with a very small rim at the top dropped through the glottis, and I lost not only my tube, but my patient as well. This incident led to the enlargement of the head and a similar accident has never since occurred.

My third operation was on July 16, and likewise, resulted fatally. My patients troubled me greatly by coughing up the tubes every few hours, necessitating their frequent reintroduction. Dr. O'Dwyer, with whom I was keeping up a brisk and most kindly correspondence, suggested a shoulder on the tube, to overcome this difficulty. I therefore, had the tubes made with a projecting shoulder, about three-quarters of an inch below the head; this was subsequently modified by the bulge or swelling in the center of the tube, with which all are familiar, and which to a certain extent overcomes this objection.

My fourth operation was done Sept. 15, 1885, and was successful. The child wore the tube five days. This, as far as I know, was the first patient in private practice to recover, and was a great encouragement, not only to myself, but to Dr. O'Dwyer, as we were both becoming disheartened. By November, 1885, I was able to report eleven cases to the Chicago Medical Society, with four recoveries. From this time on cases multiplied rapidly, as did also my trials and tribulations. Demands came from all parts of Chicago and its suburbs for the operation, and life became a burden.

I recall, among others, a case to which I was called in great haste and at much inconvenience, only to be informed on arrival that the father had decided not to allow an operation. The boy, 5 or 6 years old, was in great distress, suffering all the agonies of slow strangulation. I insisted on the operation in no uncertain terms, and finally the father inquired how much I would charge. I told him it did not matter; would relieve the boy first and talk about the fee later, but he insisted on knowing and when I said I would not charge more than $25 he said: "If you want to do the operation so bad go ahead and do it. If he gets well I will pay you $25, but if he dies you have got to pay me $25." This was a new proposition, but I agreed, and in less time than it takes to tell it the child was relieved; however, the patient subsequently died from the extension of the disease. In another case the father disputed a bill of $25, informing me that all I did was to "run a tube down the child's neck, and that he could have done it himself; it was nothing but robbery" and I could have $5 or nothing. Feeling that this was a small sum for a life-saving operation, it was declined.

In another case the father declined to pay a small fee after two weeks of the most faithful attendance because, as he said, "a brass tube was used, which poisoned

* An address, delivered on request, before the Denver and Arapahoe County Medical Society, Dec. 11, 1900.

the child and caused its death." About this time the coroner was called to investigate one of my cases. It was said that I put plugs in the childrens' throats, and that was what killed them. One of my livliest experiences occurred about this time. I was called one night to remove a tube from a desperate case of diphtheria, on which I had operated a few days before. It was in the dead of night and in one of the tough districts of the city. The patient was desperately ill, and the only hope seemed to be in removing the tube, and while this was quickly and easily done, yet the child suddenly expired in the arms of the assistant from paralysis of the heart. Nothing could convince the father that I had not killed the child, and a hasty retreat was in order. I was followed by a shower of bricks and stones and, with the irate father at my heels, fleetness of foot was all that saved me. During these days my life was frequently threatened by hard, ignorant and tough characters, and it was necessary to go armed, not knowing but that these threats might be carried out any dark night. It appeared to me about time to quit, for in payment for my time and strength and discomfort and risks I rarely received anything but abuse and threats of dire vengeance. Had the city been a smaller one my reputation would have been ruined, but fortunately my patients were so widely scattered that I was still able to hold my own. Dr. O'Dwyer, writing me at this time, said: "I do not know which to admire most, the skill required in doing the operation or the courage in introducing it into private practice." Many and many a time I have said that I would not do the operation again, but this resolve would be no sooner made than there would come an urgent call from some physician who would not be refused, and so the resolve would be broken. An occasional life saved, occasional evidences of the deepest and greatest appreciation and the consciousness that more lives were being saved than by any other known means, enabled me to keep up the work when, otherwise, strength and courage would have failed. I had other trials as well, for it was only natural that any innovation should meet with the disapprobation of many conservative members of our profession. Many a heated discussion occurred over the subject of intubation, as I reported my cases from time to time. The most bitter debate was at the meeting of the AMERICAN MEDICAL ASSOCIATION, held in Chicago in 1887. One of my staunchest and truest friends was Dr. Charles Warington Earle, now deceased, whose magnificent ability, voice and physique many will remember, and whose watchword in every fight was, "Come on boys." He was one of the early converts to the utility of intubation and its superiority over tracheotomy. He never did the operation, but in every debate his voice was raised in its favor. As a result of the bitter discussion over this subject, at the meeting referred to, a committee was appointed, consisting of Larrabee, of Kentucky, and Jones, of Illinois, to visit my patients and report the results of their investigation through THE JOURNAL. After seeing some of the patients who had recovered, others wearing the tubes and operations on others, a most enthusiastic report was made in favor of intubation.[1] Since then there has been but little opposition to the operation. I am convinced that it is a difficult one and that there are but few who can perform it well without long and careful training. To me it has never been difficult, excepting in two instances, and this after a very large experience. In these it was due to subglottic infiltration, and in one tracheotomy was required, while in the other the tube finally crowded through after great difficulty. Dr. O'Dwyer met with the same experience in one or two cases. It is a condition that must be very rare, as in several hundred I have met with but these two.

In my brief experience I have seen the mortality of diphtheritic croup almost 100 per cent. without surgical interference. With tracheotomy I have seen it reduced to 75 to 90 per cent.; with the introduction of intubation, to 60 to 75 per cent.; and finally, with intubation supplemented by antitoxin, I have seen this great mortality reduced to almost nothing. It is now sometimes asked if intubation is not unnecessary when we have a specific remedy in antitoxin. It is true that many operations are unnecessary when antitoxin is given early and repeatedly in large doses. It is true that it at once arrests the progress of the disease, but it is also true that many are neglected and not seen by the physician until the larynx has been invaded and the only possible hope is in an immediate operation. Many again commence as a laryngeal diphtheria and death may occur from suffocation before we can get the specific effect of antitoxin. While it prevents further extension of the disease, it does not immediately cause the destruction or disappearance of the obstructing membrane already present. I well remember a case in point, and a most exciting race for life, in which death for once was defeated, although by a narrow margin. One night I received a message from a doctor some miles distant, informing me that his patient, a boy 5 years old, was in a dying condition from diphtheritic croup, although he had given antitoxin. He implored me to make all possible haste, as it was doubtful if the boy could live over a few minutes. He said he would keep up artificial respiration and endeavor to keep him alive until I could arrive. Hurrying thither, I found the little spark of life still fluttering, although the child was purple, unconscious and in the last convulsive death agony. The jaws were pried apart and the gag inserted with great difficulty, but the tube was quickly placed and the child revived, and is living and well today.

In my first 100 cases there were but 27 recoveries; in the second, 34; in the third, 40; in the fourth, 38, and in the fifth, 39, while of my last 70 operations, in connection with antitoxin, there have been but 4 deaths, a mortality of less than 6 per cent. in a disease that formerly was dreaded above all others. With this experience I feel justified in saying most emphatically that any medical man who does not use antitoxin in the treatment of diphtheritic croup is guilty of malpractice, and he who openly opposes its use should be considered a menace to society, for "there are none so blind as those who will not see and none so deaf as those who will not hear."

I can not close without again paying my tribute of honor to the memory of Dr. Joseph O'Dwyer. His name will ever appear among the honored ones in the history of medicine. I have seen the mortality of diphtheritic croup reduced from almost 100 per cent. without operation to almost nothing with intubation supplemented by antitoxin.

1. The discussion and report will be found in THE JOURNAL A. M. A., of July 30, 1887.

FOR the distressing annoyance caused by the itching and tingling of chilblains, Chaffee applies tincture of iodin directly to the affected parts for two or three nights, which gives quick and complete relief.

SOME POINTS IN THE DIAGNOSIS OF GALL-STONES.*

JAMES B. HERRICK, M.D.
CHICAGO.

Repeated attacks of colic with the pain in the right hypochondrium, accompanied by nausea and vomiting and followed in a few hours by a slight jaundice, leave little doubt as to the existence of gall-stones. In the majority of cases it is on a history of such attacks with the finding of the calculi in the feces that the diagnosis is made.

But the stones are not always so frank in making known their presence. They manifest themselves by irregular symptoms, they simulate other diseases, and other diseases simulate them, so that it is true, as Hoppe-Seyler says, that if the uncomplicated, regular cholelithiasis is difficult to recognize, much more difficult is it to recognize the irregular and complicated form of the disease.[1] It is to some of the symptoms most likely to be misinterpreted and to some diseases liable wrongly to be regarded as gall-stones that I wish to direct attention.

Pain.—It is well known that the pain of gall-stone colic may not be limited to the right hypochondrium. A favorite spot for its reflection—by way of the phrenic nerve and the cervical plexus—is to the right shoulder and close to the angle of the right scapula. It may be referred to the back and make one think of renal colic, may even shoot downward and toward the genitalia, or be located to the left of the median line, in which condition Mayo Robson has found pyloric adhesions.[2] But the point of reference of the pain that causes many mistakes in diagnosis is one which is frequently complained of by patients and frequently described in articles on the subject, viz., the epigastrium. Recurrent attacks of nausea and vomiting, because they come on a few hours after meals and because there is complaint of pain in the region of the stomach, are repeatedly called gastric neuralgia or acute gastric indigestion, and a slight subsequent jaundice is overlooked or is passed by as a simple accompanying catarrhal jaundice. Attacks of "gastric neuralgia" recurring at irregular intervals, the attacks coming on several hours after meals and especially at night should arouse the suspicion of gall-stones and cause the sclera and urine to be examined for evidence of icterus and the stools for acholia and stones.

Icterus.—Not counting the cases of hepatic colic in which jaundice is overlooked because it is slight, or is not sought for, there are many in which no evidence of icterus is to be discovered, even by the most searching scrutiny of the skin, sclera and urine, and at no time are the feces pale because of absent bile-pigment. These cases often prove confusing and errors are made because of the lack of icterus, which has rightly been considered one of the most important diagnostic aids but which is so frequently absent that it can not be regarded as in any sense pathognomonic or even as an essential factor in diagnosis. In reality, aside from the finding of stones in the feces there is no symptom or sign that is pathognomonic. The diagnosis is one of probability and is made by the symptom-complex.

Jaundice may be lacking after colic because the stone, even though in motion, may drop back into the gall-bladder, or from near the narrow choledochus opening back into the wider portion of the common duct and not enough swelling result to produce the obstructive jaundice. Or small or smooth stones may pass quickly and leave so little local damage and swelling that there is no stagnation of bile. Wolff[3] saw icterus in only one-half of his cases, though, in all, gall-stones were found in the stools. And Fürbringer[4] in three-quarters of his cases failed to find jaundice. Angular or faceted stones may even lodge in the common duct and, because of their shape, leave enough space for the escape of bile, so that the feces are still bile-tinged and no discoloration of the skin, mucous membrane or urine occurs.

These are conditions in which stones moving from the gall-bladder through the cystic into the common duct, and perhaps escaping therefrom, may still leave no trace of their existence in the biliary tint of the skin or urine. But there is a large class of cases of biliary colic in which inflammation plays an important, if not the sole, part. Riedel in particular has called attention to them. These are cases of stone in the gall-bladder where an acute inflammation or the lighting up of a dormant inflammation occurs, the condition being one therefore of cholecystitis and cholangitis, at least a portion of cystic duct being inflamed. The bacteria producing it may have entered from the intestine and primarily have caused the formation of the stone through the inflammation excited, or they may have entered later and have lain quiet so long as conditions were not particularly favorable for their development, or, perhaps, so long as there was good drainage through the cystic duct. But for some reason, at a given time, be it increase in numbers or virulence of the microbes, or movement of the stone to the mouth of the bladder-duct, there is an acute inflammation of the gall-bladder, swelling of its mucosa and that of the cystic duct; the outlet is therefore occluded. Pain, nausea and vomiting are present, and in addition there is tenderness over the gall-bladder; this in many instances may be made out as distinctly enlarged, being distended with the retained bile and inflammatory mucoserous, or mucopurulent exudate. The temperature, if carefully taken, will be found slightly elevated, from one to two or three degrees, above the normal, and may so remain for a few days, as may the local tenderness and swelling. Some of these cases are complicated by a slight, local peritonitis, repeated attacks resulting in adhesions and thickenings about the gall-bladder. The important fact, the misleading fact as it would appear from experience, is that there is no jaundice. The probable diagnosis must be made without its presence, upon the history of previous attacks, the location of the pain, especially over the region of the gall-bladder, its radiation, tenderness over the region of the gall-bladder, the enlargement of the viscus and the slight temperature. No definite statements can as yet be made as to the value of the direction of radiation of the pain as an aid toward locating the stone. It has seemed in some cases, and also from observations made while probing biliary fistulæ, as though pain referred to the right scapular region might mean stone in the cystic duct. The importance of early recognition of gall-bladder stones before chronic inflammatory or ulcerative changes in the bladder and its immediate neighborhood have taken place, or the stone has, perhaps, become lodged in the common duct is self-evident, rendering surgical interference possible at a time when the operation is easier and safer and brings about great results in the way of avoiding unfortunate complications and sequelæ of calculi.

* Read at the meeting of the North Central Ohio Medical Society, Mansfield, Ohio, Sept. 28, 1900.

Fever.—Since the bacterial era fever in connection with gall-stones has been generally looked on as an evidence of microbic invasion of the biliary tract or of neighboring organs, e. g., the liver, that have been secondarily involved. I wish to make brief reference merely to the fever commonly known, after Charcot, as the hepatic intermittent fever. This is associated with stone or stones in the common duct. Pus or bacteria that can be cultivated, and naked-eye changes in the mucosa are frequently absent. The exact nature of the fever, whether microbic, toxic or both, is still uncertain. It has been compared to urethral fever. In many cases there is jaundice that persists for months or years. At irregular periods chill, fever, sweating, pain in the right hypochondrium, often vomiting, occur, and the jaundice for a time deepens. The freedom with which some of the stones change their position in the duct and the manner in which they intermittently occlude the duodenal opening of the common duct producing jaundice, or of the cystic duct leading to atrophy of the gall-bladder, has been clearly shown by Fenger, in his article on "Stones in the Common Duct and their Surgical Treatment, with Remarks on the Ball-Valve Action of Floating Choledochus Stone."[5]

If in every such case of intermittent hepatic fever there is this periodic closure of the exit of the choledochus, the paroxysm would seemingly be due to retention and absorption of some yet unrecognized toxic material. Osler,[6] who early called attention to this from of gall-stone manifestation, lays, as it seems to me, a little too much stress on the permanence of the jaundice and its invariable appearance after the attack of chill, fever and colic. If in some cases there is an incomplete occlusion, the obstruction may be so slight as to lead to no persistent jaundice. At the time of the paroxysm there is more complete obstruction, but it may be of such short duration that stagnation of the bile and absorption by the lymphatics does not take place to an appreciable extent, and no jaundice appears. That this absence of icterus for long periods, and even after attacks of chill, fever and colic, is not only theoretically the fact but is actually so, is proved by histories of some of Fenger's cases. And I have in two instances seen no jaundice appear after chill, fever, sweat and pain, though, because gall-stones were suspected, the patients, who were under observation in a hospital, were most carefully watched for evidences of the slightest trace of icterus, which ultimately appeared, but was intermittent. And right here I would emphasize the importance, in doubtful cases, of putting the patient in the hospital and keeping him under observation for days or weeks, if necessary, so that the course of the fever, the evidence of icterus in the skin, stools or urine may be properly judged. In both the cases above referred to, it was in this way and this alone that a correct diagnosis was made, as shown by the removal of solitary choledochus stones. The diagnosis in the cases with permanent jaundice or jaundice plainly perceptible after each attack is comparatively easy. The same chill, fever and sweat have been observed in obstruction from pressure, e. g., from carcinoma, hence caution has to be observed in making too positive an ante-operation diagnosis.

Association with Carcinoma.—In the adult and aged particularly, the association of gall-stones and carcinoma is so common as to be regarded as more than accidental. While the question as to which is the primary trouble is not positively settled, the preponderance of evidence is in favor of the view that the gall-stone is in most cases the primary disease, the carcinoma arising in the gall-bladder or bile-duct at the point of irritation by the stone. The possibility of carcinoma being found along with the calculus should make one circumspect as to his diagnosis and prognosis, particularly when with advanced age there is an unusually rapid loss of weight and strength, with anemia, and increasing size of the liver that is in these cases so often the seat of secondary growths by direct extension or metastasis. Palpable and perhaps nodular masses in the region of the gall-bladder, when associated with cachexia, would arouse suspicion of a neoplasm. Yet inflammatory exudates and thickening of tissue will readily deceive. In fact, even with the abdomen opened, the surgeon is often in doubt as to whether the hard and thickened tissue in the neighborhood of the stone is inflammatory or neoplastic.

Riedel's Tongue-Shaped Process.—A projection of the lower, i. e., anterior border of the liver as a tongue-shaped process has been described by Riedel as found in many cases of gall-bladder stone where there is pericystic thickening. This tongue-like projection is oftenest seen in women with the corset-liver and gall-stone. In its physical properties it is not unlike a tumor of the gall-bladder, the right kidney or the large intestine. If its possible existence is remembered it can frequently be recognized by its shape, its edge, its location, its respiratory mobility, its situation above and in front of colon, as well as by the positive signs and symptoms in the previous history pointing to gall-stones and the absence of symptoms indicating renal or intestinal new-growths. Extremely confusing is the condition in which Riedel's process is crossed by the adherent intestine. The projection is then separated from the bulk of the liver by an area of tympany, especially noticeable with the colon distended with air, and it is not to be wondered at that the process is often regarded as a kidney or as a new growth of the intestine or omentum. Eichhorst, as well as others, speaks particularly of the difficulty of diagnosis in such cases. One such I have seen trip up one of the acutest diagnosticians of Europe.

Relation of Typhoid Fever to Gall-Stone.—The relation between typhoid fever and cholelithiasis is in some cases so close that a history of typhoid a few months or years before adds a probability to a diagnosis of gall-stones. The researches of Chiari[7] and others show the great frequency with which typhoid bacilli are found in the gall-bladder and the bile of patients dying of typhoid, there being in some cases naked-eye evidence of cholecystitis. Recent observations have confirmed these statements, and have shown bacilli in bile many months after the subsidence of the fever. The changes they produce in the mucous membrane of the gall-bladder are those favoring the shedding of the epithelium and the increase in the amount of cholesterin, i. e., Naunyn's requirements for the production of calculi are met. Typhoid bacilli have been found in the nuclei of stones; stones have shown themselves by symptoms soon after attacks of typhoid, and autopsies on patients dying several months or a few years after typhoid fever have, in not a few instances, shown gall-stones with typhoid bacilli in the gall-bladder. There seems little reason to doubt that gall-stone formation is favored by the presence of typhoid germs in the gall-bladder, and that they are frequently present in that situation during typhoid. The value, therefore, of inquiry into the history for typhoid is clear.

Conditions that Simulate Gall-Stones.—Thus far I have spoken only of points concerning diagnosis where

gall-stones are actually present. I wish now to call attention to a few conditions that may simulate gall-stones and thus lead to error in diagnosis. Ulcer of the stomach, neuralgia of the stomach, renal, intestinal and lead colic are all so freely discussed in text-book articles, and so quickly occur to the mind of one examining a patient with suspected gall-stones, that I will not refer to them further, but take up briefly a few diseases that I have found confusing to myself and others. Theoretically, some of them ought not to confuse. But practice and theory are here, as in many other situations, not always in harmony. Some of these conditions if once thought of will be readily recognized. But one of our great troubles in diagnosis is that our attention is easily attracted by some striking feature of a case toward some particular disease of which it may be a prominent symptom. We are apt to forget that this same symptom may be a minor or exceptional manifestation of some other disease that will be overlooked unless it accidentally comes to our mind, or unless it thrusts itself forward by other symptoms revealed during a thorough routine examination.

To illustrate this point, let me cite the case of a man whom I saw in my ward at the Cook County Hospital, suffering severe pain which he referred chiefly to the epigastrium. In response to my inquiry as to what was the cause of the pain, he replied that it was gall-stones, that he had been operated on for them several months before, had had relief for a few months, but now the same periodic pains had returned and he was sure some stones had been overlooked or others had formed. He had the operation-scar to confirm his statements. My first thought was that the man was right, for stones can be readily overlooked at an operation and recurrences are by no means unknown.[8] But the points to which the pain radiated, into the arms and thighs, made me examine more closely, and I found the ear-marks of tabes—loss of knee-jerk, Romberg's symptom, Argyll-Robertson pupil, etc., and his epigastric pains were but the gastric crises of that disease. I have no reason to question the statement made by the surgeon to the patient, that he removed gallstones but I narrowly escaped wrongly consigning the patient to the surgical ward and to an unnecessary second operation.

Angina Pectoris.—I have once or twice been puzzled to differentiate between gall-stones and angina. The pain of gall-stones may, as has been said, be referred to the left side and may even appear in the breast, and anginal pain may involve the epigastrium. In general, however, the thickened condition of the arteries, the enlargement of the heart, the distinct precordial location of the pain with its radiation to the neck and left arm, the violent, grasping, vise-like nature of the pain with the sense of impending death, the absence of later jaundice, etc., make a diagnosis a simple matter.

Senile Pneumonia.—The pain of pleurisy, especially when it involves the lower right side and the diaphragm, is often referred to the abdomen. With pneumonia there may be vomiting, and not infrequently icterus, the latter perhaps from an accompanying catarrhal jaundice. A patient, therefore, with acute epigastric and right hypochondriac pain, nausea and vomiting, chill and fever and subsequent jaundice, resembles in many respects a case of gall-stones. This was first impressed on me by the case of a physician of about 60 years, who called me to see him after he had been ill and treating himself for two days. He told me he thought he had gall-stones and cholecystitis, for he had sharp pain in the region of the gall-bladder, with fever and jaundice. The condition was, however, one of right lower lobe pneumonia of the senile type, with comparatively slight cough and expectoration.

Localized Peritonitis.—Acute peritonitis or exacerbation of a chronic peritonitis may, if in the region of the gall-bladder, make one think seriously of gall-stones. A man of about 23, who a few years before had passed through an attack of typhoid fever, had been annoyed for ten months with what at first he regarded as indigestion. At irregular intervals, on four or five occasions, he had suffered from poor appetite for a day or two, coated tongue, then severe pain in the epigastrium and right hypochondrium, vomiting and fever. These attacks had gradually subsided, leaving him rather weak, with some soreness just below the right costal arch. His last attack had been quite severe and his physician thought it was due to gall-stones. Jaundice had been doubtful. The history led me to suspect gall-stones with cholecystitis and extension of inflammation to the neighboring peritoneum, for there was in the neighborhood of the gall-bladder, after the acute symptoms had subsided, a resistance and tenderness, though for days no temperature. This diagnosis was concurred in by another physician and by the surgeon who operated. We found an extensive tuberculous peritonitis, but no gall-stones. Recovery from the operation—a simple opening and loosening of adhesions—was followed in the course of several weeks by a great improvement in local and constitutional symptoms and a gain of twenty-five pounds in weight. The patient is still living and reports himself well over a year from the time of operation. Appendicitis, intestinal obstruction, hemorrhagic pancreatitis may resemble gall-stones with inflammation of the gall-bladder or neighboring peritoneum. Of the difficulty of differentiating between gall-stones and intestinal obstruction a case recorded by Fenger[9] is a good example where an operation done for suspected intestinal obstruction revealed no obstruction, but a distended gall-bladder, yielding on opening, a large number of calculi, the symptoms of ileus disappearing after the removal of the stones.

Hernia of the linea alba, Dietl's crisis in floating kidney, hysteria, malaria with neuralgic pain and jaundice, might be mentioned as conditions occasionally simulating gall-stones, and I must call attention to the not infrequent association of cholelithiasis and other diseases. I have already mentioned typhoid fever and carcinoma of the gall-bladder. Diabetes, gout, obesity and renal calculi are many times found with gall-stones; and, accidentally, any disease may occur in a patient who has gall-stones, as in the case of tabes I have cited.

I have aimed in this rather cursory manner to refer only to a few points, especially those I have found puzzling to myself or others, and have made no effort to go into the details of diagnosis of gall-stones with the numerous possible complications and sequelæ.

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THE PRESENT STATUS OF SPINAL SURGERY.*

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(Continued from page 1014.)

TUMORS.

This field of surgical activity only dates back to 1887. Gowers and Horsley were the first to undertake any operation for intravertebral tumor, but since then many other surgeons have had satisfactory results. It is true that tumors involving the spine had been operated on earlier, but they were favorable cases where there was an extravertebral manifestation. Of the 58 reported by Gowers and Horsley, all the patients died except the one operated on by Mr. Horsley, yet 80 per cent. of these could have been completely relieved by operation, and those which were hopeless might have been benefited if the pressure had been removed. The careful studies made by Starr, Mills and Gowers and many other observers have enabled the surgeon to do brilliant work in this class of cases. There can be no question of what one would do in a case of extravertebral tumor producing pressure on the cord, and with the present status of laminectomy there is no reason why any intravertebral tumor should not be attacked with every confidence of an improvement in the patient's condition. It is hardly necessary for us to attempt a tabulation or a classification of the tumors which may involve this region of the body. This has already been carefully done and can be found in almost any of the standard text-books. The question with us is a simple one. Given the probable existence of compression of the cord, not amenable to medical treatment, surgical intervention should be the rule. The neurologist now localizes these regions so accurately that there is little difficulty in determining the point of the spine to be attacked, and as most of these tumors are small, owing to the confined space in which they develop, the area of the vertebral column which is to be removed is of very small moment. Chipault collected 22 cases of operations on spinal tumors, and Keen added 3 more; 11 of these patients recovered, 11 died, and the result in 3 is uncertain. I have been able to collect 51; of these 16 recovered, 4 improved, 2 were unimproved, and 5 died immediately and 23 some time after the operation.

In the cases reported by Keen I find that he includes my own case of fracture of the third lumbar vertebra, in which the compression was due to callus. If these are to be regarded as cases of tumor, I have had several instances, both in the Pott's and fracture classes, where I have operated that might be tabulated. While the conditions are identical, I do not feel that these cases should be classified among tumors, and have therefore not included them in my tabulation. I have operated on one case of hydatids (see table, Case 51) of the back with compression of the cord. In this case the diagnosis of an inoperable sarcoma had been made. When I first saw the patient my intention was simply to relieve the pressure on the cord, by resecting that portion of the growth which involved the vertebral canal, in order to relieve the compression and the pain. On more careful examination, after the patient entered the hospital, I concluded that I was dealing with a multilocular cystic condition and made a puncture, which at once revealed the presence of the hydatids. A complete operation was therefore undertaken with a complete recovery. At the time that I presented this case before the surgical section of the New York Academy of Medicine, Nov. 9, 1896, I expressed the opinion that the man would ultimately recover. Not long after that he returned to his business as a traveling salesman, and was able to go about with ease. Unfortunately, however, he was killed by a railroad accident about six months later. In this case the compression was between the eighth and ninth dorsal vertebræ.

* Presented to the Section on Surgery and Anatomy, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

TABLE OF GROWTHS, REGION AND FREQUENCY.

The following table gives the different growths that have been recorded, as well as the region and frequency of their occurrence.

Kind.	Number.	Intradural.	Extradural.	Unclassified.	Intra-Vertebral.	Extra-Vertebral.	Cervical.	Dorsal.	Lumbar.	Sacral.	Recovery.	Improved.	No Improvement.	Death from Operation.	Subsequent death.
Cancer	2				1	1		1	1						
Abscess	2							2							
Sarcoma	15	1	7	2	5	1	2	12			1	2		2	9
Myxosarcoma	1	1						1					1		
Echinococcus	8	1	7		2	3		5	3		3				5
Myxoma	1	1									1				
Connective tissue mass	2		2					2			2				
Unclassified	10	4	4			2		9	2		4	1	1	2	2
Lymphangeoma	2		2		1			2	2		1	1			
Psammoma	2	1		1	1			2			1				1
Chondro-sarcoma	1		1					1				1			
Osteo-sarcoma	1		1			1		1							1
Lipoma	3	1	1			1			2	1	2				1
Enchondroma	1					1		1					1		

A glance at this table immediately explains the large number of deaths recorded, but not due to operative interference. For instance, 2 of these were due to carcinoma, 2 to abscess, 9 to sarcoma, 5 to echinococci, 2 were unclassified, 1 was due to psammoma, 1 to an osteosarcoma, and 1 to a lipoma. It is at once evident that a complete and radical cure was impossible in many of these, and yet no one who has witnessed the sufferings that these patients have to bear and the relief they receive when the pressure is removed, will say that the operation was unjustifiable. Only 8 per cent. have died as a direct result of the operation itself. In the 23 dying some time after the operation, there was marked relief, as a rule, from the intense pain and general discomfort, and it may be considered an established fact that the patient was more comfortable and died a less horrible death than would have been the case without the operation. The recoveries here are 31.37 per cent. with only 9.80 per cent. immediate or operative deaths. Undoubtedly earlier diagnosis and a consequent earlier operation will improve these results.

TUMORS.

CASE 1.—Operator, Lecat, 1751. Lumbar region; extravertebral carcinoma; male. After a traumatism, tumor appeared which destroyed the spinous processes of the 4 upper lumbar vertebræ and the medullary sheath. Removal. Death after 2 days. Reference: Chipault, Chir. Medullaire, p. 350.

CASE 2.—Operator, Reydellet, 1819. Lumbar region; extradural hydatid cyst; female, 26. Complete anesthesia of lower limbs, difficulty in defecation, right leg became paralyzed. Tumor opened and hydatids enucleated, cord exposed. Death. Reference: Idem.

CASE 3.—Operator, Johnson, 1856. Duration, born so; sacral region; extradural, extravertebral lipoma; male, 10 months. Child born with an opening in the sacral region; 3 weeks later an ulcer appeared situated on a small tumor. The ulcer healed, but the tumor increased in size. Convulsive movements of the right leg were noticed. One tumor enucleated, another found with pedicle passing into vertebral canal. This also enucleated. Improved. Reference: Idem.

CASE 4.—Operator, Gerster, 1878. Dorsal region; extradural at first; intravertebral sarcoma. Paraplegia. Removal of greater part. Dura was destroyed at many points. Escape of large amount of cerebrospinal fluid. Sensibility and motion improved. Death. Reference: Idem.

CASE 5.—Operator, Bazy, 1886-91. Duration, 18 months; lumbar region; both extra- and intradural and extra- and intravertebral hydatids; female, 45 years. Gradual weakening of the lower limbs with accompanying pain, and also in lumbar region. Incontinence of urine, incomplete paraplegia specially marked on right

side; projection in the lumbar region, fluctuating. Right lamina of 4th was found destroyed, cavity into the body of the vertebræ. Dura had been perforated and hydatids found therein, which were washed out with boric solution; rubber drain. Pain in lower limbs; large amount of cerebrospinal fluid escaped. Death 15 days later. Reference: Idem.

CASE 6.—Operator Bazy, 1886-91. Cervical region; intradural cysts; male adult. Atrophy of the muscles of the scapula led to the diagnosis of compression at the 4th C. Removal of 4th and 5th C. arches. Dura opened and cyst found under pia. Reference: Idem.

CASE 7.—Operator, Wright, 1888. Duration, 20 years; cervical region; intravertebral fibrosarcoma; male, 38. Tumor on left side of neck, which gradually increased in size, weakness in the left arm, then left leg, right arm, right leg; reflexes exaggerated. Tumor encapsulated. Prolongation into the 3rd foramen. Another tumor found, both in contact with brachial plexus. Improvement. Reference: Idem.

CASE 8.—Operator, Abbe, 1889. Dorsal region; extradural, intravertebral. Eighth and 10th arches removed. Improvement. Reference: N. Y. Medical Record, Feb. 9, 1889.

CASE 9.—Operator, Sonnenberg, 1889. Dorsal region; extradural, extravertebral sarcoma. Removal of whole tumor impossible. Death in 6 weeks. Reference: Verhand. d. Deutsch. Gesell. f. Chir., April, 1889.

CASE 10.—Operator, Abbe, 1890 Dorsal region; extradural sarcoma; male, 42. Eighth and 9th dorsal arches removed. Death on 9th day. Reference: N. Y. Medical Record, 1890, p. 85.

CASE 11.—Operator, Horsley, 1890. Intradural; male, 52. Complete paraplegia. Four arches removed. Death from shock. Reference: International Congress, Berlin, 1890.

CASE 12.—Operator, Kelly, 1890. Dorsal region; intradural. Recovery. Reference: Southern Med. Record, vol. xx.

CASE 13.—Operator, Bardeleben, 1889. Dorsal region; extradural, extravertebral and intravertebral enchondroma; male, 65. Tumor size of nut, 7 cm. from spine at bottom of scapula. Slow in growth. Paraplegia and vesical paralysis. Removed, seen to pass into canal between 7th and 8th dorsal. Death. Reference: Chipault, Chir. Medullaire.

CASE 14.—Operator, Leaquer, 1890. Duration, 2 years; dorsosacral region; extradural lymph-angioma; male, 19. Pain in sacral region most intense at night; pain on pressure; slight lumbar kyphosis, slight atrophy of quadriceps, diminution of tendon reflexes, rectal and vesical paresis. Posterior wall of sacrum opened, tumor taken from middle of sacrum. Improvement. Reference: Idem., p. 357.

CASE 15.—Operator, Fenger, 1891. Dorsal region; extradural, intravertebral; sarcoma. Male, 38. Complete anesthesia of trunk and lower extremities. Removal of 4th and 5th dorsal arches. Death on 5th day from septicemia. Reference: Am. Jour. Med. Sc., vol. ciii, p. 405.

CASE 16.—Operator, Lane. Duration, 3 years. Dorsal; extradural, intravertebral; boy. Fell and struck side 12 months ago; felt pain; 1 month later found projection on back. Wore Sayres jacket 3 months. Six months ago lost power in legs, sensation decreased, occasional incontinence, knee and ankle clonus marked, plantar reflex absent. Arch of 4th, 5th, 6th and 7th D. removed. Abscess anterior to cord. It contained cheesy matter and large pieces of necrosed bone. Cavity filled with iodoform; drain for 36 days. Movement and sensation increased, then movement almost disappeared. Second operation showed more caseous matter; very slight improvement. Reference: Brit. Med. Journal, 1891, p. 1227.

CASE 17.—Operators, Ramson and Anderson. Duration, 32 months; dorsal region; extradural intravertebral hydatid cyst; male, 42. Had had gonorrhea and was alcoholic; gnawing pain in back and down legs, which suddenly left at the end of 4 weeks and returned occasionally during next 4 months; it then returned and legs were stiff, weak and numb. Lost sexual power, knee-jerks absent, no ankle clonus. Finally, loss of sensation and motion of lower limbs; bedsores. Arches of 11th and 12th D., 1st and 2nd L. removed; forceps used; dura not sutured. Death. Postmortem examination showed 2 cavities in the right erector spinæ muscle containing grey pultaceous matter. Tumor in canal at 10th D. not connected with the others. Reference: Brit. Med. Journal, 1891, vol. ii, p. 1144.

CASE 18.—Operators, Davies and Colley, 1892. Duration, 7 years; dorsal region; extradural extravertebral sarcoma; female, 23. Shooting pains in back and chest; 1 month ago lost sensation in lower limbs; had incontinence of urine and feces and then lost power of motion. Is well nourished and healthy. Large boss opposite 4th and 5th D., projection hard; no pain, knee-jerk, plantar reflex and ankle clonus present. Smooth whitish growth, in right vertebral groove, attached to the right 5th and 6th D. laminæ. These were removed. Dura healthy, but cord compressed and soft. Drain used. Complete recovery. Reference: Trans. of Clin. Soc., London, 1891-2, xxv.

CASE 19.—Operator, Temoin, 1892. Duration, since birth; lumbar region; intradural lipoma; female, 11 months. At birth there was a small tumor about size of hazel nut in lumbar region; gradually increased in size. Tumor removed; pedicle going into canal closed with catgut sutures. Respiration ceased momentarily while pulling on pedicle. Reference: Chipault, op. cit., p. 359.

CASE 20.—Operator, Rehn, 1891. Duration, 2 years; sacral region; extradural intravertebral lymphangioma; male, 19. Severe pains in sacral region; 1 year later, complete anesthesia and paraplegia of lower limbs; patellar reflex present, bladder and rectum normal; pain on pressure and constant boring sensation over sacrum. Later, rectal and vesical paralysis; tendon reflexes absent. Sacral canal opened up to 5th L. Marked improvement. Reference: Neurol Centralbl., 1891, p. 193.

CASE 21.—Operator, Zavaleta. Duration, 4 months; lumbar region; extra- and intradural and extra- and intravertebral lipoma; aged 6 months. Child otherwise normal. Firm, irreducible tumor at 4th L. Pedicle penetrated canal between 4th and 5th arches, through dura; was dissected away from arachnoid; dura closed. Death 2½ months later. Reference: Chipault, op. cit., p. 346.

CASE 22.—Operator, Lichthen, 1890. Dorsal region; intradural psammoma. Death after two days. Reference: Deut. Med. Woch., 1891, p. 1386.

CASE 23.—Operator, Lichthen, 1890. Dorsal region; psammoma. Improvement. Reference: Idem.

CASE 24.—Operators, Ransom and Thompson. Dorsal region; extradural sarcoma. Death on 6th day. Reference: Am. Jour. of Med. Sci., clx, p. 634.

CASE 25.—Operators, Ransom and Anderson, 1892. Dorsal region; hydatid cyst. Operation too low down; cyst not found. Death 3 days later. Reference: Brit. Med. Jour., 1892, ii, p. 1144.

CASE 26.—Operators, Capanoto and Pescarolo, 1892. Dorsal region; intradural myxo-sarcoma. Improvement after 5 months. Reference: La Reforma Med., 1892, p. 543.

CASE 27.—Operator, Szekeres, 1893. Duration, 12 years; dorsal region; extradural extravertebral echinococcus; male, 32. Swelling over spine for 12 years; pain disappeared with application of cold; complete paraplegia and anesthesia in lower limbs. Recovery. Reference: Pester, Chir. Presse, 1894, p. 43.

CASE 28.—Operator, Lamphear, 1892. Duration, 17 months; dorsal region; extradural intravertebral; female, 47. Had dizzy spells in 1886. Two years before operation, slight loss of motion and spasmodic contraction in lower limbs; 17 months before operation, intense pain and paraplegia in legs, anesthesia to diaphragm, bladder and rectum involved; two months later had slight control over legs for a short time, which was soon lost; large bedsore. Bedsores covered with collodion and excised. Arches of 12th D., 1st, 2nd and 3rd L. removed with saw and chisel. Hard, almond-sized tumor on periosteum. Lamina of 2nd D. soft; granulation-like tissue pressing into canal. Death through carelessness of nurse. Reference: Medicine, vol. ii, 1896, p. 25.

CASE 29.—Operator, Horsley. Dorsal region; extradural echinococcus. Recovery. Reference: Chir. Jour., London, 1896-7, p. 97.

CASE 30.—Operator, Ignatoff. Dorsal region; extradural chondrosarcoma; female, 35. Improved. Reference: Vayenno Med. Jour., 1896.

CASE 31.—Operator, Curtis, 1893. Duration, 6 months; extravertebral cancer; female, 35. Breast amputated for tumor. Pain and stiffness on left side and shoulder, anesthesia of forearm, pharynx and conjunctiva; knee reflex increased; complete anesthesia and paraplegia below umbilicus; rectal and vesical paralysis; kyphosis at middorsal region. Sixth D. arch removed. Death 16 days later. Reference: N. Y. Med. Record, vol. liii, p. 346.

CASE 32.—Operator, Rogers, 1897. Duration, 7 months; dorsal region; extravertebral tumor; male, 28. Submitted to long exposure. Pain in thorax increased for 4 months; no motion without pain. Slight recovery, then sensation of something "moving down inner side of legs." No pain. Six months later could not stand or void urine; lost motion of lower extremities; T. 102, P. 110; anorexia, vomiting, pain; 1st D. spine sensitive to pressure; knee-jerks increased, especially left; ankle clonus slight on right, decided on left. Diagnosis, "tumor of spine." Removal of 4th and 5th dorsal arches; extended afterward; 4th and 5th D. completely disorganized, the transverse processes being separated at their bases. Lesions too extensive for removal. Death 9 days after. Reference: Phila. Med. Journal, 1898, vol. i, p. 332.

CASE 33.—Operators, Eskridge and Freeman, 1897. Duration 1 year; D. region; intradural tumor. Paralysis, motion and sensation varied, sometimes absent; superficial reflexes absent; pain in back. On admission T. 100 F., P. 96, resp. 22; paralysis of bladder and rectum; sensation further impaired. Laminæ of 4th and 5th dorsal removed. An almond-shaped tumor of the arachnoid. Complete recovery. Reference: Idem, vol. ii, 1898, p. 1236.

CASE 34.—Operators, Quesnel and Garten, 1896. Duration, 2 years; dorsal region; intravertebral sarcoma; male, 28. Mother neurasthenic and lame; patient healthy. Fell 3 meters, struck on back, was unconscious; worked next day. Well 1 year, then had bladder trouble and weakness in legs; symptoms increased; in bed last few months. At time of operation paraplegia and anesthesia of lower limbs, bladder and rectum; pulse normal; left plant. reflex stronger; no ankle clonus; sensation absent below 11th D. After Urban, 5th to 9th arches removed; slight pulsation appeared. Death in 6 days. Post-mortem examination showed meningitis basilaris. Reference: Neurol. Centralbl., 1898, p. 482.

CASE 35.—Operator, Thompson, 1893. Duration, 20 months; dorsal region; extradural intravertebral sarcoma; male, 50. Pains in epigastrium and over dorsal spines; 3 weeks later weakness and pain in legs; knee-jerks exaggerated, no ankle clonus; 4 days later double ankle clonus and anesthesia in front of thighs; lost power in lower limbs; 3 weeks later sensation lost near 8th and 9th D. spines and anterior ends of corresponding ribs. Trephine used; 7th, 8th, 9th and 10th D. arches removed; cord normal. Death 6 days later. Reference: Brit. Med. Journal, 1894, p. 395.

CASE 36.—Operators, Burns and Credal. Duration, 22 months; intradural; female, 24. Severe pains in back extending afterward to legs and abdomen; one year later weakness in right foot, with slight paralysis; one year later left leg also affected; fibrosarcoma in right ear; bladder disturbance, patellar reflex weak. All symptoms became worse. No tumor found, no pulsation of cord. Death. Reference: Archiv. Psychiatrie, xxviii, p. 97.

CASE 37.—Operator, Burns, 1894. Dorsal region; extradural sarcoma. Sudden death within 24 hours. Reference: Neurol. Centralblatt, 1894, p. 389.

CASE 38.—Operator, Burns. Dorso-lumbo-sacral region; sarcoma. Tumor not found. Death after 14 months. Reference: Idem, p. 281.

CASE 39.—Operators, Saenger and Krause, 1894. Dorsal region; extradural sarcoma. Tumor removed. Death on 4th day. Reference: Munich Med. Woch., 1894.

CASE 40.—Operators, Horsley and Gowers, 1888. Dorsal region; intradural myxoma. Removal of 4th and 5th D. arches. Recovery. Reference: Starr, Am. Jour. Med. Sci., ciii.

CASE 41.—Operator, MacEwen, 1888. Dorsal region; extradural connective tissue mass. Removal of 5th to 7th D. arches. Recovery. Reference: Idem.

CASE 42.—Operator, MacEwen, 1888. Dorsal region; extradural connective tissue mass. Tumor removed. Recovery. Reference: Idem.

CASE 43.—Operator, Barclay, 1894. Duration, 29 months; cervicodorsal region; extradural endothelioma; male, 28. Fell from bicycle. Partial paralysis of all limbs; gradual increase of paraplegia and anesthesia; knee and ankle clonus and plantar reflexes present; upper abdominal reflex absent; no control over bladder. Fourth, 5th, 6th and 7th C. arches removed. Death from hemorrhage. Reference: Brain, xviii, p. 256, 1895.

CASE 44.—Operator, McCosh, 1894. Dorsal region; extradural sarcoma. Progressive anesthesia reaching to 7th intercostal space behind, ensiform in front. Third, 4th, 5th and 6th D. arches removed. Death 17 days later, supposedly from sarcomata in viscera. Reference: Am. Jour. Med. Sci., clx, p. 618, 1895.

CASE 46.—Operators, McBurney and Starr. Dorsal region. Com-

plete anesthesia and paraplegia in lower limbs. Arches of 9th, 10th and 11th D. removed; tumor removed. Partial recovery; recurrence and death later. Reference: Idem, p. 626.

CASE 47.—Operator, Warren, 1898. Duration, 16 months; dorsal region; intradural; female, 52. Severe pains over lower ribs; six months later weakness and pain in left leg, pain on moving head and opening mouth; knee-jerk exaggerated, ankle clonus present. At time of operation could not stand alone nor control bladder; lost sensation in lower limbs, especially right. Eleventh and 12th D. arches removed. Tumor size of an olive in pia; dura stitched with silk; gauze drain. Good recovery. Reference Am. Jour. Med. Science, vol. cxviii, 1899.

CASES 48 and 49.—Case 1, operator, Keen, 1891; Case 2, operator, Warren. Duration, Case 1, 11 years; Case 2, 17 years. Dorsal region; intradural; cord seemed like sarcomatous tissue. Male, 34. Great pain, then gradual loss of sensation and motion for 9 years; finally complete paralysis of motion and sensation, bladder and rectum involved. Chills (not malarial) 4 years after pain in back. Case 1, operation, arches of 7th, 8th and 9th D. removed. Complete recovery. Case 2, operation, same location. Complete recovery. Reference: Idem.

CASE 50.—Operator, Elliott. Duration, 3 years; upper cervical region; extradural sarcoma. Male, 24. Fell from ladder; neck injured twice later. Gradual paralysis below neck of all muscles except diaphragm. Posterior surface of axis eroded. Sarcomatous tissue removed. Fair recovery. Reference: Idem.

CASE 51.—Operator, Lloyd, 1896. Duration, 9 years; dorsal region; extradural intravertebral echinococcus; male, 57. History of slight rheumatic attacks in back for 5 years, then severe pain in lumbar region when standing. Two years later small tumor at right of lumbar spine, gradually increasing until a series of cysts extended from left side of upper margin of sacrum and over to right side and upward to middle of scapula. Another cyst, size of fetal head, extended retroperitoneally into abdomen. Twelve years later paraplegia began and became almost complete in 1 year. Tactile, pain and temperature senses decidedly impaired as high as crests of ilia. Exaggeration of patellar reflexes. No reaction of degeneration; vesical paralysis; girdle pain; crepitation over tumor peculiar to echinococcus cysts; dyspnea, anemia. Laminæ of 8th and 9th dorsal on right side partially removed during extirpation of large number of cysts. Complete recovery. Reference: Am. Med. Surg. Bull., Dec. 5, 1896.

FRACTURES.

Thanks to the work that has been done by the neurologists, we are able to get a better idea of those cases of fracture of the spine which are amenable to operative interference, although as yet we must confess that the rules advanced can not be absolutely applied to any definite case. One must consider the region of the spine involved before attempting a prognosis. The recoveries from operative interference in the cervical region have been very few; the mortality is much greater than in such interference in other regions. The functional results are by no means so satisfactory as when the lower dorsal or lumbar regions are involved. The type of fracture also naturally affects the prognosis. An indirect fracture, i. e., one with bending of the spine accompanied by fracture-dislocation of one or more vertebræ and with the symptoms of complete separation or degeneration of the cord, as evidenced by the rapid appearance of bed-sores, not due to the direct pressure, and to the complete paraplegia and anesthesia, including the paresis of the rectum and of the bladder and with obliteration of the reflexes, would naturally contraindicate operative interference. There can be no hope of restoring function to a destroyed spinal cord in these cases. The injury has been sufficient to pulpify the cord and that area of softening is usually of considerable extent and produces complete obliteration of all nervous control below the segment affected. As there is no known way of grafting new cord or removing destroyed portions of it, or of grafting posterior nerve roots into the cord below, as suggested by Dana, it is a waste of time and an unnecessary cruelty to the patient to submit him to any operative interference.

In the other class of cases, however, where the patient has recovered sufficiently from the immediate shock, where the cord shows that it has not been completely destroyed by the recovery of more or less of the sensation or motion or exaggeration of one or several reflexes, by the continued healthy condition of the skin, even though atrophy be present, operative interference may result in great benefit to the patient.

Keen has said that 20 per cent. of fractures of the spine are simple fractures, that 20 per cent. are simple dislocations, while 60 per cent. are both fracture and dislocation.

Fracture dislocations of the vertebra nearly always produce more or less injury to the cord, and Chipault does not believe in the generally-accepted idea that the spine in these cases springs forward so as to bruise and destroy the cord, and then immediately on the removal of the force producing the lesion, springs back again into, or nearly into, place. Thorburn, however, believes this cause to be exceedingly common and much more so in the cervical region than elsewhere.

Naturally a serious injury to the cord—in this way—in addition to producing degeneration of the involved segment is rapidly followed by inflammatory softening, so that we frequently find, as these cases recover from the immediate shock of the injury, that we have an increasing paraplegia and anesthesia. The bodies of the vertebræ are more frequently fractured than the arches, and, naturally, when this occurs the cord may be destroyed by the displaced fragments of the body, but fractures of the spinous processes or of the arches do occur without any injury to the cord itself. In this latter set of cases no treatment may be necessary other than the rest in bed, and possibly the application of a plaster jacket or other spinal assistant, but it should be remembered that occasionally where the arches are fractured without injury to the cord the paraplegia may begin at a later date and may be due to the formation of callus on the inner side of the lamina, as in the case I reported in my former paper, or to inflammatory exudation.

The question of localization of injuries of the spine has been thoroughly considered by Thorburn, Keen, and others, and it is not necessary for us to repeat what is already thoroughly outlined. It is, however, important that we should in all cases of fracture of the spine that may come to operative treatment observe the difference between the effects of total and partial injuries of the cord as shown by the reflexes. Bastian, Bowlby, Thorburn, and Herter have studied these phenomena. Their conclusions may be briefly stated, that in complete transverse destructive lesions of the cord there will invariably be complete paraplegia below the level of the injury, complete anesthesia below the level of the distribution of the injured nerves, and complete and permanent obliteration of the knee-jerk and deep reflexes of both sides, but if the transverse lesion of the cord is only partial, the paralysis and anesthesia will be incomplete, while the deep reflexes may remain normal or be exaggerated, and the bladder and rectum follow the same general rule as the deep reflexes. Keen says that if immediately after the accident the knee-jerk on both sides is absent and remains so, operation is contraindicated. He adds that there is no question that as a general rule the persistent absence of the reflexes, especially of the knee-jerks, is an evidence that the cord has been so completely destroyed that operation would be unwise, and yet he adds, there are a few happy exceptions to the rule. In this connection he reports a case of Schede's, one of Hammond and Phelps', and one of his own. In this last case, one of dorso-lumbar dislocation, the knee-jerks had been absent for eighteen months, but returned within a week after the operation. He considers that Schede's success was owing to the early date of the operation, sixteen hours after the accident.

Had this rule of not operating in the absence of the knee-jerks been followed in these cases, the patient would undoubtedly have remained permanently

paralyzed, while in every instance they regained more or less complete function. This has also been illustrated in the case of mine, operated on within the past few days. Here complete paraplegia and anesthesia below the fifth lumbar segment, according to Starr's classification, were present at the time of the injury. The deep reflexes were also obliterated. Six weeks later the patient had recovered slight power in the adductor muscles of the right side, and had some control over the rectum and bladder. The day following the operation hyperesthesia was present on the right side over a large portion of the formerly anesthetic area, while the adductor power had moderately increased; and forty-eight hours later he had begun to recover his reflexes and was markedly hyperesthetic on both sides. This, then, can not be taken as an absolute rule, and I feel inclined to differ with Keen in the conclusion that the obliteration of the deep reflexes is an absolute contraindication to operation. It is important for us to decide whether the lesion is a complete degeneration of the cord or whether it is a simple compression of that organ. In the former case it is useless to operate; in the latter it becomes necessary to consider at what time the operation can best be performed.

In my former paper I said that if operation is undertaken at once there is danger of interference where a spontaneous cure would result if the patient were left alone, or where a complete destruction of the cord renders operative interference useless. If, however, operation be delayed too long, and a compression be allowed to continue, a degeneration may result which would be as serious as though the functions of the cord had been destroyed by the original injury. Lauenstein said that if, after the lapse of six or ten weeks, there is incontinence of urine with cystitis or incontinence of feces, and especially if there has also developed a spreading of bed-sores, but little is to be hoped from the efforts of Nature. Horsley insisted that operation should be undertaken early, and this was my own opinion as expressed at that time, provided the symptoms present indicated interference with the functions of the cord. In other cases I should wait until the shock following the injury had been overcome, watching the patient's condition carefully, however, and at the slightest indication of any symptoms pointing to an extension of the interference with the action of the spinal cord, whether that interference be due to hemorrhage or to compression from depression, callus or to the exudation of lymph, I should operate at once. Chipault says, in this connection, that in all traumatisms of the cord there are three serious lesions: 1. A zone consisting of that portion of the cord which is directly destroyed, which may be of greater or less extent, and which undergoes complete necrosis following the destruction of the nervous elements; this degeneration is complete. 2. A zone above and below the former, in which the nervous elements are injured but not absolutely destroyed. Within two or three days the nerve cells are increased in size and their protoplasm becomes granular, the cylinder axes form a sort of chaplet, the myelin is broken into segments. This beginning of degeneration close to the injured part can be determined by noting the involvement of the motor and sensory centers immediately above the site of the injury. If the cause of compression is removed, both cylinder axes and myelin may undergo a certain amount of regeneration by the ninth day. If the cause of the compression persist or the injury is sufficiently grave, the destruction of the cord of this zone is permanent and is followed by sclerosis. 3. Secondary degeneration sets in at a very early date; this is due not to the direct injury but probably to the separation of the nervous elements from the trophic centers. The degeneration extends above and below the site of the lesion, and begins as early as the fourth day, and continuing to extend for many months it follows the general trend of the Wallerian degeneration; from the site of the lesion downward the motor fibers degenerate and the sensory proceed in the reverse direction. The early date at which these lesions have been recognized, especially by animal experimentation, as well as by clinical experience, shows that if intervention is undertaken at all, with any hope of amelioration, the earlier it is done the better.

In this connection, however, it is important to take into account the general results following fractures of the spine treated without operation, and the same statistics that I used in my former paper will illustrate this point. Thus, Gurlt reported 217 deaths out of 270 fractures, or over 80 per cent.; while Burrill, from the tables of the Boston City Hospital, cited 82 cases with 64 deaths, or 79 per cent., and of the 22 per cent. of recoveries, only 11 per cent. were satisfactory, the other 11 per cent. being completely disabled. These statistics also show that in the fatal cases the greater number of deaths occurred within a few days. It is, therefore, evident that if we operate immediately after the injury we will have failures that should not be charged against the operation itself, and if possible we should wait before operating until the question can be settled whether the patient will overcome the shock or succumb directly to the effects of the injury.

There is another objection to immediate operation. In so-called concussion of the spine, there may be a certain amount of anesthesia and paralysis. The recovery, however, will be complete, or at least so nearly so that no appreciable lesion can be made out. Immediate operations in these cases would be unnecessary, as they would have recovered spontaneously had they been left alone for a sufficient length of time. It is impossible, too, in the first few hours, to determine with any degree of certainty, how severe the injury really is, nor can we absolutely localize the injury to the cord. In my opinion, therefore, we should wait until this period of shock has passed and until it is evident that there will be no spontaneous recovery complete enough to render life bearable. If after this period has passed, the patient still continues to improve, no operative interference should be considered, but as soon as the symptoms begin to show retrograde phenomena or seem to have reached the end of the improvement, operation should be undertaken.

(To be continued.)

SPINAL COCAINIZATION FREE FROM ALL DANGERS.—Bier announces in a private letter to Reclus, published in the *Presse Médicale* of April 3, that he has worked out a technique of spinal cocainization which is "exempt from dangers." He was to make it public at the German Medical Congress that convened at Berlin April 11. After a few attempts and a personal experience with spinal cocainization on himself, he warned against the methods in vogue at present as mentioned in THE JOURNAL at the time. Folet reports, in the *Echo Médical* of March 31, another death in progressive collapse five days after spinal cocainization. No analgesia was induced and the operation was postponed for two days and performed under chloroform. The patient was a man of 50, in satisfactory condition.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

61 Market Street : : Chicago, Ill.

Cable Address: "Medic, Chicago"

Subscription price: Five dollars per annum in advance

SATURDAY, APRIL 20, 1901.

A NEW FORENSIC METHOD OF DIFFERENTIATING HUMAN AND ANIMAL BLOOD.

The difficulty in determining the character of stains resembling blood, and, when they are recognized as such, in deciding whether they are derived from human beings or lower animals, is often a matter of the highest importance, particularly from the medicolegal standpoint. Under favorable conditions, when the stains are not too old, it can be determined that they are due to blood, by spectroscopic examination and by the development of hematin crystals, and their source can sometimes be established from the physical characteristics of the cells contained, more especially with regard to their size and form and the presence or absence of nuclei. Inasmuch as life may hang in the balance in accordance with the decision, the need of more trustworthy procedure must be only too obvious.

It has been discovered that the blood of an animal to which has been added blood from another species contains specific substances that cause agglutination and solution of the red cells of the latter, but have no influence upon the blood from any other source. It was next found that the employment of other fluids in the same way yielded corresponding results. In pursuing this line of investigation Wassermann and Schütze[1] started out to determine whether the substances thus formed are strictly specific, that is active only with regard to the albuminous fluids employed for injection. They found that the serum obtained after the injection of cow's milk contains substances capable of coagulating the casein of cow's milk, but not of the milk of other animals, and vice versa. It then suggested itself that this biologic method might be employed for the special differentiation of various proteid substances.

Accordingly, rabbits were treated with defibrinized human blood, but it was found necessary for a considerable number of well-preserved red blood-corpuscles to be present in the suspected material to be examined in order that a reaction should be discerned. For this reason cell-free blood-serum was then employed. Accordingly, rabbits were given five or six subcutaneous injections of 10 c.c. each of cell-free human blood-serum at intervals of about two days. Some six days after the last injection the animal was bled, and the blood placed upon ice to permit of separation of the serum. If, now, to a dilution of human blood-serum with physiologic salt-solution or to a dilute solution of human blood with distilled water, .5 c.c. of the rabbit's blood-serum were added, a distinct cloudy precipitate took place at once at room-temperature, becoming more marked at a temperature of 37 degrees in the thermostat. On the other hand, no turbidity whatever developed on addition of serum to diluted blood from any of the animals with which one ordinarily comes in contact—twenty-three different animals being examined for this purpose—with the single exception of the monkey, and in this animal the reaction was less prompt and less marked than in man. So much having been determined for fresh blood, the same tests were applied to blood dried on various articles, after the lapse of three months, with the same results.

The reaction may, therefore, be considered specific, and it should prove of great value, especially for medicolegal purposes. If the diluted blood is turbid before addition of the serum it should be filtered until it becomes absolutely clear. Further, no cloudiness was induced with the blood-serum from a rabbit not previously treated with human blood-serum. In actual practice it is advisable to divide the solution of the suspected blood into two equal parts, one of which is exposed to the action of the blood-serum of a previously treated rabbit and the other to that of a rabbit not so treated. Besides, the blood-serum of the prepared animal might be added to a dilution of blood from another animal. The development of the reaction in the first and not in the other two would be positive evidence that the suspected substance is really derived from human blood.

It is pointed out that the blood for the objects of the test could be obtained from the application of leeches or other form of bleeding for therapeutic purposes, or by expression from the placenta after parturition. Further, it may be found that a similar end can be attained by the use of considerable amounts of human pleural or abdominal effusion. Observations of an entirely analogous character to those here recited are reported also by Uhlenbluth.[2]

1. Berliner Klin. Woch., No. 7, 1901, p. 187.

THE HISTOPATHOLOGY OF THE PANCREAS, ESPECIALLY IN ITS RELATIONS TO DIABETES.

The pancreas is an acinar gland, but its structure is not as simple as indicated by this statement. As shown first by Langerhans, in 1869, there are also peculiar, round groups of small cells distinct from the acini, penetrated by wide, tortuous capillaries, and without connection with the pancreatic ducts. These bodies are present in all vertebrates from an early embryonal period. In honor of their discoverer these bodies are referred to as the islands of Langerhans. Studied by Kühne and Lea, Lewaschew, Laguesse, and Schafer, their nature and function have remained obscure. Recently their behavior under pathologic conditions of the pancreas has commenced to attract attention.

2. Deutsche Med. Woch., Feb. 7, 1901.

Ssobolew[1] has made a brief preliminary statement concerning these bodies under abnormal conditions with especial reference to diabetes, and Opie,[2] in an important series of papers dealing with the histology and pathology of the pancreas, brings out much of interest in regard to the islands of Langerhans. Opie found that in the tail of the cat's pancreas each lobule contains in the center one of these bodies. In the human pancreas the arrangement is much more irregular, though the bodies are several times more numerous in the pancreas than elsewhere. In the chronic interstitial pancreatitis of congenital syphilis, in which there is a very extensive interlobular and interacinar production of new fibrous tissue, the islands seem to maintain their integrity, as shown in instances examined by Opie, Condon, and others. Opie distinguishes two types of chronic pancreatitis in the fully developed organ, based largely upon the distribution of the fibrous tissue, namely the interlobular and interacinar. In the first, in which the tissue between the lobules is especially affected by the sclerotic process, the islands of Langerhans remain intact except in the most advanced areas. Ssobolew notes the long persistence of the islands in atrophy of the pancreas from ligation of the duct. Among other anatomic factors that may explain this resistance may be mentioned the fact that the islands do not communicate with the lumen of the ducts, and are thus not directly involved when there is obstruction or infection of the ducts. In the interacinar form of chronic pancreatitis there is new fibrous tissue produced within the lobules, and in this form there is proliferation of interstitial tissue within the islands of Langerhans as well.

Now as to the relations of changes in the islands of Langerhans to diabetes mellitus of pancreatic origin, it may be noted that Opie found demonstrable lesions in the islands in four cases of this kind examined: one was an advanced interlobular, sclerotic pancreatitis with altered islands, two were chronic interacinous inflammations, and one—the fourth—was associated with a remarkable hyaline change of the islands so that intact islands were no longer discoverable; the hyaline areas were nearly a millimeter in diameter and visible to the naked eye. Ssobolew states that he found no trace of the islands in the pancreas of two diabetics. While far-reaching deductions are out of question without more and greatly extended observations, the last case of Opie's, diabetes with hyaline islands, is an interesting one indeed, because here the lesion is confined so closely to the bodies that conditions are produced almost answering the requirements of experimental excision, which is impossible.

These observations, taken in conjunction with the intimate relations of the cells of the islands to rich capillary networks, show that there is nothing radically unreasonable in the as yet largely theoretic suggestion that the islands of Langerhans have an internal secretion the suspension of which leads to diabetes mellitus.

1. Centralb. f. Path., 1901, xi, 202-3.
2. Jour. Exp. Med., 1901, iv, 397-428; JOUR. A. M. A., ℘ 54, p. 1146.

RUPTURE OF THE DUCTUS ARTERIOSUS.

During intrauterine life, when the functions of the fetus are largely performed by its parent, blood from the mother passes through the umbilical vein, the hepatic veins and the inferior vena cava to the right auricle and ventricle. Some of the blood of the right auricle passes through the imperforate interauricular septum into the left auricle and thence into the left ventricle. The left auricle receives comparatively little blood from the lungs through the pulmonary veins. From the right ventricle the blood is sent into the pulmonary artery, but inasmuch as the lungs of the embryo are not actively engaged in their function of pneumatosis the greater portion of this blood is diverted through the ductus arteriosus into the aorta, which receives comparatively little blood from the pulmonary vein, through the left auricle and ventricle. With the entrance of the child upon extrauterine existence the lungs expand and the blood is sent to them through the pulmonary artery in increased amount, and therefore through the ductus arteriosus in lessened amount. After being aerated in the lungs, the blood is returned in increased amount to the left auricle through the pulmonary veins. The necessity for the communication between the auricles and between the pulmonary artery and the aorta being removed, they gradually close under ordinary conditions, although exceptionally one or the other remains patulous for a varying length of time and perhaps even throughout a long life.

It has been shown that the entrance of the ductus arteriosus into the aorta is controlled by a sort of valve-like arrangement, and that while it is possible to inject the duct with gelatin or plaster under ordinary pressure through the aorta in a backward direction, this is not possible in the forward direction. If, however, the pressure is increased beyond a certain degree the restraining influence of the valve will be overcome and the injection material will enter the duct also under the latter condition. Under ordinary circumstances, thus, the flow of blood through the ductus arteriosus ceases soon after birth, and with the cessation of its usefulness the duct gradually loses its elasticity and finally undergoes obliteration. Under extraordinary circumstances, however, as in two cases recently reported by Roeder,[1] the pressure in the aorta may be so greatly increased that the duct is ruptured; and the suggestion is made that such a condition—if not actual rupture, at least, laceration of intima or media of the duct—might be found more commonly than reports would show, if it were carefully looked for. The cases of Roeder are believed to be the first of the kind recorded in the literature. The mother of each child was healthy and presented no evidence of syphilis. One was a primapara, 25 years old, and had been illegitimately

1. Berliner Klin. Woch., 1901, No. 3, p. 72.

pregnant. The other was the wife of a laborer and had previously borne two healthy children. In both cases pregnancy and parturition had been normal and the umbilical wound had healed without complication. The one child was a male, had presented by the sacrum and had died on the third day. It was feeble and jaundiced and exhibited considerable dyspnea with small mucous râles. Postmortem examination disclosed the presence of bronchitis, general stasis, multiple rupture of the ductus arteriosus, laceration of the intima of the pulmonary artery near the duct, marked gastric catarrh with erosions, uric-acid infarction of the kidney, and respiratory furrows in the liver. The second child was a female and was found dead on the fourth day. She presented an enlarged thyroid gland and marked acceleration of breathing with numerous râles. Postmortem examination disclosed extensive hemorrhage into the middle lobe of each lung, rupture and a dissecting aneurysm of the ductus arteriosus, bronchitis, congenital goiter, uric-acid infarction of both kidneys, gastrointestinal catarrh and edema and hyperemia of the brain. The question is raised whether, in the first of these cases, the slight lesion in the duct, that may be supposed to have occurred as a result of increased pressure in the aorta in connection with the sacral presentation, might have led to no ill result had not the aspiration of mucus and amniotic liquor given rise to the development of bronchitis, with interference in the evolution of the lungs, and further increase in the blood-pressure. In the second case the question naturally suggests itself as to the part played by the enlarged thyroid gland in causing circulatory disturbances by compression of the trachea and large veins. In each case no histologic abnormality of the walls of the ruptured vessel was found on microscopic examination.

PROFUSE HEMATEMESIS WITHOUT LESION OF THE STOMACH.

Blood in small amount may escape from vessels without solution in continuity as a result of increased blood-pressure or from changes in their walls induced by mechanical, chemical or thermal influences. Free hemorrhage, on the other hand, can, it is believed, occur only when a blood-vessel is opened. Occasionally, however, cases are seen in which the escape of blood is so considerable as to justify the inference of a vascular lesion, which postmortem examination may fail to disclose, and for which we are as yet without a satisfactory explanation. Such bleeding may take the form of gastrorrhagia and hematemesis, and enterorrhagia and hematuria. It is possible that in some cases the actual source of hemorrhage has been overlooked, while in others careful histological examination might disclose unsuspected disease of the vessels.

A case of profuse hematemesis simulating gastric ulcer with perforation, terminating fatally, and in which no lesion was found after death has recently been reported by H. G. Chapman.[1] The patient, after vomiting and bringing up a "basin full of blood" came under observation on account of weakness and vomiting. She was anemic and complained of epigastric pain made worse by eating. The temperature was normal, the pulse accelerated, respiration easy. There was tenderness over the upper part of the abdomen and some retraction and rigidity. Food by the mouth could not be retained, and nutrient enemata were therefore given. After the patient had been under observation for two weeks she was suddenly seized with pain, which grew severe and was followed by vomiting. The abdomen became slightly distended and the abdominal muscles markedly rigid, with complete loss of hepatic percussion-dulness. The patient was collapsed and perspiring freely. Her pulse was 120, of small volume and low tension. Perforation was diagnosed and celiotomy undertaken. The stomach was brought entirely out of the wound but no abnormality could be found. Further search failed to disclose perforation of the bowel, ruptured tubal gestation, perforation of the appendix or the gall-bladder, and the peritoneum was quite clean and free from inflammation. The wound was closed and saline and brandy enemata given, but the patient failed to rally, and commenced to vomit brown-colored, coffee-ground material in the course of a few hours. Stimulants, cardiants and infusions were also employed, but death took place on the third day after operation.

On postmortem examination the stomach contained some dark-brown fluid, with a few clots, but careful search from the esophagus to the sigmoid flexure failed to disclose any ulcer or abrasion. The liver and spleen were normal, and the lungs exhibited no pathologic condition. The aorta was the seat of slight degenerative change. The capsules of the kidneys were slightly adherent, but the cortex of these organs was wide and regular. The opinion expressed by the pathologist is that a specific arteritis was present and that the hemorrhage had resulted from the rupture of a small vessel into the stomach.

A PHYSICIAN NOT OBLIGED TO ANSWER CALL.

Some time ago we noticed the starting of a suit against a physician of Indiana for damages for refusing to respond to a call for his services. The plaintiff's complaint was based on the theory that under the state laws of Indiana, the defendant, having been duly licensed, was obliged to meet demands for his services when it was in his power to do so. The defendant physician, through his counsel, demurred to each paragraph of the complaint, holding that the facts did not constitute a cause for action against him. The demurrer was sustained in the circuit court and an appeal taken by the plaintiff to the supreme court, which has just rendered its decision that the medical practice act is a preventive, not a compulsive measure. This decision will be found in our medicolegal department this

1. Intercolonial Med. Jour. of Australasia, 1901, No. 2, p. 369.

week. In obtaining a state license to practice medicine, it says, it is not required and the license does not engage that the recipient will practice at all, or that he will practice on any other terms than he may choose to accept. In other words, the physician is his own master and not a public slave, at the beck and call of whoever may demand his professional care.

Without discussing the merits or demerits of the special case involved, the principle established by the decision is the only rational one and it is well that it has been authoritatively settled in a community where such a suit could be seriously maintained. It is strange that the belief can anywhere be held that a professional man who draws no compensation from the state or community should be considered a public, or quasi public, servant simply because the law demands of him certain qualifications before permitting him to earn his living in his chosen way. That would be adding to the burdens of the already overburdened practitioner with a vengeance. The fact is, the public has often very little sense of justice as regards the medical profession, notwithstanding its dependence upon it in times of trouble. Good evidence of this is given in the newspaper comments on the present case, some of which are magnificent examples of Pharisaic virtue, feeling acutely for others' sins and utterly unconscious of their own.

We would not be understood in the least as ignoring the moral obligations of the physician to attend cases in need—no physician worthy of the name would be wilfully guilty of violating them, and it is safe to say that there is no class in the community that lives up to them more. In the present instance we are informed that some of the *ex parte* statements sent out, on which some of the criticisms were based, were falsehoods, and this materially alters certain aspects of the case. However this may be, there is no right nor justice in falsely assuming a legal obligation that may be made to embarrass the physicians where no moral obligations exist. The decision, while it is the only rational one, may serve as a useful precedent and as a preventive of future similar misconceptions of law and justice.

THE WORKING OF THE TENNESSEE MEDICAL LAW.

At the recent state medical examination in Tennessee there were thirteen applicants from outside the state, ten of whom passed, and 150 from Tennessee colleges, all of whom were passed without examination. This shows the effect of recent legislation exempting Tennessee graduates, but this is not all; a number of new schools were reported and at least one had already its graduate applying for a license. Besides medical schools of varying pretensions there were magnetic schools whose output had also to be licensed under the law. The state has now over two thousand medical students in its institutions, of all classes, and bids fair to become overrun with its own legalized graduates before the idiotic legislation responsible for present conditions can be repealed. There are possibilities almost as bad as being a dumping-ground from outside sources, and Tennessee seems likely to experience them.

ANTIVIVISECTION IN MASSACHUSETTS.

A number of eminently and otherwise respectable individuals in Massachusetts have recently been pushing, in the legislature, certain bills against physiologic experimentation as at present practiced in that commonwealth. All the stock arguments were employed to advance the bills, together with the usual misrepresentations that are regularly sent out by them in their Boston publications. Massachusetts, however, is a rather compact community, and the legislators sensibly concluded that personal knowledge of what was directly under their eyes was a better basis for law making than hysterical sentimentalism. They have, therefore, inspected for themselves, and while we have not yet learned the result, it is hinted by the eastern papers that the indications are not favorable to the antivivisectionists. In any case we have the assurance that the facts have been presented to the legislative committee by men fully competent to demonstrate the utility of physiologic experimentation and its humanity in the highest sense of the word. If they decide wrongly it will be with the full responsibility of knowledge on the subject.

RESPIRATORY CHEMISM OF TUBERCULOSIS.

The studies of the respiratory chemistry in phthisis, by MM. Robin and Binet, a résumé of which is given elsewhere in this issue of THE JOURNAL, are striking in several respects. In the first place it is a research along a comparatively new line in the study of tuberculosis, and the facts developed are significant. They open up a wide field for conjectures; the research seems incomplete and suggestive rather than satisfying in most respects. The most important point thus far established is the diagnostic one; if we are to be able to foretell a predisposition not otherwise revealed, it is a step in advance. Why one descendant of tuberculous parents, without any evidence of bacterial infection, should show these anomalies of pulmonary gas exchange and another not is not readily explainable, and the authors' suggestion of a special soil in these cases is perhaps the one most allowable. The fact also that the conditions in arthritism are the reverse in this respect from those in tuberculosis are significant in connection with the apparent observed incompatibility of the two conditions. Robin and Binet's work, though as yet incomplete, is apparently one of the important recent contributions to the literature of pulmonary tuberculosis. It need hardly be said that it does not make out, as some of the lay press has reported it, that a surplus of oxygen is a cause of pulmonary phthisis, but if its findings and views are to be accepted, it justifies pathologically the name "consumption" that has always been the popular designation of the disease.

INTERNATIONAL CATALOGUE OF SCIENTIFIC LITERATURE.

It is a common failing of mankind to long for what it has not and to be unappreciative of what it possesses. No medical man whose studies necessitate reference to

the literature of his subject can have failed, many times and deeply, to regret the dissolution of the *Index Medicus*. It is true that the deficiency resulting therefrom has been made good in part by the publication of various indices and digests, but it must be admitted that none, or even all of these together, represent the completeness that gave especial value to the *Index Medicus*. The latest endeavor in this direction consists in the formation, under the auspices of the Royal Society, of an international catalogue of scientific literature, as the result of several international conferences in the course of the last few years. The work of cataloguing has already been begun and is in active progress; and it is hoped that all papers published after January 1 of the present year will be indexed, both according to subject and according to author. Each participating nation is to be responsible for the indexing of the papers published in that country, and a central bureau is to collect, coordinate and publish the results of the labors of the various national bureaus. The perfection and the success of the work can be materially contributed to by the cooperation of medical authors, in sending to the respective bureaus separate copies, or full titles, with notes and place and date, of their publications; and, also index-slips indicating under two or three main headings the subjects treated. Such a bureau has already been opened in London for Great Britain, but we have not as yet seen any notice of the establishment of an American bureau, and we are without details as to the exact mode and form of publication and distribution. The plan appears to be entirely feasible, and it is most heartily deserving of success. It should receive the unstinted support of the medical profession the world over, as the utility of such a catalogue is not to be overestimated.

EXPERIMENTAL LUMBAR PUNCTURE TO PROVE TUBERCLE BACILLI PRESENT.

It is well known that in the fluid obtained by lumbar puncture in cases of tuberculous meningitis, tubercle bacilli are often missed in cover-glass preparations and in cultures. The inoculation experiment is more positive in its results, but these results are only obtained after several weeks have elapsed, at which time the patient may be dead. More rapid, yet just as certain, inoculation methods have been sought, and to this end there has been practiced direct injection of the fluid into the cerebral subarachnoidean space through a trephined opening. Results have been uncertain and traumatic damage to the meninges and brain not inconsiderable. Recently Hellendall[1] has tried, by means of lumbar puncture, the injection into the spinal subarachnoidean space of the guinea-pig, of fluid from cases of tuberculous meningitis, hoping in this manner to excite a tuberculous meningitis, with symptoms and macroscopic anatomical changes developing more rapidly than where the injection of the suspected fluid is in the peritoneal cavity. This case will enable an earlier diagnosis to be made. To his surprise, however, meningitic symptoms did not appear. Instead, by way of the lymph-channels, the retroperitoneal lymph-glands became tuberculous and there was general diffuse tuberculosis of the liver, spleen, lungs, etc., as after injections into the peritoneal cavity, death occurring in from four to eight weeks. On Hellendall's own showing the lumbar puncture in the guinea-pig is not easy of accomplishment, considerable uncertainty always being felt as to whether the point of the needle is in the subarachnoidean space. While, therefore, tubercle bacilli may find the soil and environment more favorable for growth in this locality than in the peritoneum, so that a smaller quantity of the suspected fluid may suffice, the advantage, where a sufficient amount of fluid can be obtained by lumbar puncture from the suspected case, will still remain with the peritoneum.

1. Deutsch. Med. Woch., March 28, 1901.

MALPIGHI, SWAMMERDAM AND LEEUWENHOEK.

We hear so much of the superiority of modern methods of investigation, of modern research and modern discoveries that we are apt to forget that there is a great debt owing some of the investigators of decades and even centuries ago. Not only did these men labor earnestly and carefully, but they often inculcated correct methods, and made many positive and permanent additions to knowledge. One is surprised to find, in reading Laennec, not only what acute clinical observations he made and how he correlated these with the results of painstaking autopsy findings, but how he, the pioneer in auscultation, worked out the subject in such a manner that comparatively little has been added to it in three-quarters of a century. Too little credit is given to the earlier workers; the thought of the present is constantly taken up with the wonderful discoveries of the recent past and the earnest search for the truths of the future. It is fitting, therefore, that our attention occasionally be directed backward. Prof. W. A. Locy has done this in an interesting article on Malpighi, Swammerdam and Leeuwenhoek.[1] It must excite the admiration of all who read to learn how much was accomplished by these seventeenth century enthusiasts. The Italian not only left his name on a layer of the skin and certain structures in the spleen and kidney, and not only did he make important observations on the structure of the heart, the lung and glandular structures, "but he was the first to insist on the analogies of structure between organs throughout the animal kingdom, and to make extensive practical use of the idea that discoveries on simpler animals can be utilized in interpreting the similar structures in the higher ones." His monograph on the structure and metamorphosis of the silkworm, his work on the anatomy of plants and his labors in embryology stamp him as a skilled naturalist imbued with the true scientific spirit. And the same spirit is seen in the Hollanders, Swammerdam and Leeuwenhoek. The work of the former, especially his "Anatomy and Metamorphosis of Insects," is declared to be, in its descriptions, a model of accuracy and completeness. Leeuwenhoek, with his crude microscopes, yet careful observations of histologic structure in plants, man and the lower animals, contributed much to the stock of knowledge and aided in establishing scientific methods in place of the mystic and fantastic theorizing then in vogue. When we think of the limited opportunities, the poverty in suitable instruments, the sim-

1. Popular Science Monthly, April, 1901.

plicity of histologic technique, and the preconceived notions of anatomy and physiology tending to lead one astray toward theory and away from fact, the wonder is that they wrought so well and accomplished so much. It is good for us to pause occasionally and consider whether, after all, with our added facilities and advantages for work, we are so superior in methods, in scientific spirit and, relatively speaking, in results, to some of these master minds of long ago.

Medical News.

CALIFORNIA.

Walter **E. Garry, Ph.D.,** has been elected professor of physiology in Cooper Medical College, San Francisco.

A new **hospital** is to be built in West Redding, by Dr. John M. Read, and will accommodate ten or more patients. The building will cost about $4000.

The **French Hospital,** San Francisco, at its annual meeting elected Drs. Luke H. F. J. Marson, F. R. Orelia and Joseph E. Artigues, members of its staff.

The **State Board of Medical Examiners** has filed its answer in the suit brought by a graduate of the Pacific Coast Regular College of Medicine to compel the issuance of a license to practice. The answer sets forth that the college did not meet the minimum standard of requirements for recognized colleges of medicine, and that the refusal to accept and recognize its diplomas was taken after an investigation and due deliberation, in which no prejudice or malice entered.

COLORADO.

The **Jefferson medical bill,** which contains an amendment providing that "Christian Scientists" shall not be permitted to treat infectious or contagious diseases, has passed the senate.

"Dr." **A. C. Burroughs,** Ouray, has been deprived of his license to practice, by the State Board of Medical Examiners which held that his affidavit of ten years' practice was false, and that he was a "healer" and not a physician.

An **Industrial Sanatorium** for the relief of consumptives has been incorporated in Denver, by Dr. A. Mansfield Holmes and others. The plan provides for the erection of a sanatorium about twenty miles from Denver, which is to be conducted as an industrial colony. It is expected that the large amount of money required will be raised by the "cottage endowment plan." By utilizing the labor of patients it is expected that nearly all of the work of the institution will be performed, the entire sanatorium supplied with provisions, and a great variety of remunerative industries carried on.

GEORGIA.

The **State Board of Medical Examiners,** at its session in Augusta, April 3, examined sixty-nine applicants for license to practice medicine in the state.

Georgia **Pasteur Institute and Laboratory.**—The board of governors held its first semi-annual meeting in Atlanta, April 12. The report of the physician-in-charge, Dr. James N. Brawner, showed that since December 1, 11 patients had been treated, 8 of whom were bitten by rabid dogs, as proved by inoculation of rabbits. All the patients improved under treatment and were dismissed as cured. Dr. Claude A. Smith, the secretary and pathologist, made a satisfactory report of work done in his department.

IDAHO.

An **epidemic** of smallpox prevails at Samaria, where sixty cases are reported with, it is said, no effort being made to quarantine the infected houses.

C. K. **Ah Fong,** Boise, who filed a petition asking the district court to review the action of the State Board of Medical Examiners in refusing to issue him a license to practice medicine, has won his suit and the board has been instructed to issue a license to Dr. Ah Fong.

The **State Board of Medical Examiners,** at its recent meeting in Boise, examined eleven candidates, to seven of whom it issued licenses to practice. It also passed a resolution urging on regular practitioners the necessity of creating by voluntary contributions a fund for the prosecution of illegal and irregular practitioners.

ILLINOIS.

Report of Births and Deaths.—A bill has been introduced in the senate and referred to the committee on judiciary which provides for the report of births within thirty days, and a payment of 25 cents for each report, and for the report of deaths, a similar payment; it regulates interment or other disposal of dead bodies, and prescribes a penalty for non-compliance with the provisions of the act.

State Colony for Epileptics.—Two sites are contending for the location of the state colony for epileptics, to be founded if the bill now before the legislature becomes a law; one at Grand Detour about 100 miles from Chicago, and the other at Elsah, 270 miles from Chicago, and 230 miles from the center of population of the state. The project will involve an initial expenditure of about $250,000.

Chicago.

Low Mortality.—Another week of remarkably low mortality is reported by the health department, the total deaths, 445, being 6 fewer than reported during the previous week and 113 fewer than in the corresponding week a year ago. Thus far this year there have been 1046 fewer deaths than in the first fifteen weeks of 1900—a decrease of more than one-eighth, or 13 per cent. The deaths for the week numbered 445, a death-rate of 13.16 per 1000, per annum. Of these 148 were due to diseases of the respiratory system and 30 to violence. Influenza, which was at its height in the middle of last April, continues steadily to decline—only 3 deaths being referred to this cause last week and 27 in the corresponding week of 1900. To the subsidence of this mischievous malady is attributed the continued low death-rate among the aged and the decrease of pneumonia deaths—93 deaths of those over 60 last week, 142 last year; 67 deaths from pneumonia last week, 127 last year.

The Smallpox Situation.—The unusual character of the smallpox epidemic continues to attract the attention of sanitarians and health officers. Since the beginning of the year 12,344 cases of the disease have been reported to the Marine-Hospital Service as against only 7410 last year, an increase of nearly five thousand cases, or 66.5 per cent. On the other hand, only 180 deaths are reported this year against 391 last year, a decrease of 72.4 per cent. in the mortality rate. It is probable that some share of the increased number of cases reported this year is due to more careful diagnosis; the disease has been so mild and the mortality so insignificant throughout this epidemic that cases frequently escaped recognition in the early period. In this city, for example, there has been but one death from the disease since the first case detected, Nov. 30, 1900. The experience in New York City, however, shows that smallpox is still to be dreaded by the unvaccinated. Between December 1, last year, and March 23, 1901, out of a total of 474 cases there were 70 deaths—a mortality rate of nearly 15 per cent. In this city the lesson of neglected vaccination, although not so deadly, is still sufficiently striking. There have been 175 cases of smallpox found in Chicago between Nov. 30, 1900, and April 13, 1901, the period of the present epidemic; of this number 143 had never been vaccinated. Of the remaining 32 cases, 30 were adults showing faint, poor or irregular scars claimed to be evidence of attempted vaccination in infancy or early childhood—the most recent being 23 years old. Only two out of the 171 cases exhibited typical scars of successful vaccination. Of these one was 35 years old—"vaccinated when a child," revaccination attempted three years ago, without results; vaccin lymph probably inert. The other was 40 years old, also successfully vaccinated in childhood, but never revaccinated. These are the only two cases out of the total 175 on whom vaccination was ever successfully attempted, and the most recent of these was more than thirty years ago. This shows conclusively that successful vaccination in childhood, and successful revaccination after, are the only sure safeguards against smallpox.

INDIANA.

St. Edward's Hospital.—A permit has been issued by the city of New Albany to the Sisters of St. Francis to erect a hospital at Seventh and Spring Streets.

The Central College of Physicians and Surgeons, Indianapolis, held its thirty-second annual commencement, April 4, and issued diplomas to a class of 22. Prof. A. J. Banker, Columbus, delivered an address on "Medicine as a Profession vs. Medicine as a Business."

The Medical College of Indiana held its thirty-first annual commencement exercises at Indianapolis, April 8. President Gobin of De Pauw University delivered the address of the evening on "The Physician as a Publicist." Degrees were conferred on a class of forty-six, six of whom were women.

Rare heroism was displayed by Margaret Wallman and Kate Nolan, nurses at the Woman's department of the insane hospital at Mount Jackson, near Indianapolis. When the building caught fire, April 10, these nurses succeeded in removing all the patients uninjured, but in this work the rescuers were severely scorched. The fire caused a property loss of about $1500.

Smallpox.—During March 472 cases were reported with 5 deaths. In Switzerland County, 220 cases, and in Lawrence county 101. The disease is generally mild, but not a few are more or less severe. In all new localities invaded, the uninformed physicians fail to recognize the disease, but what is worse, usually cling to their erroneous diagnosis and so make it hard to apply preventive measures.

State Board of Health Report.——This, for March, shows 3272 deaths, a mortality of 15.3 per 1000 per annum, slightly higher than that for March, 1900—15 per 1000. Tuberculosis caused 373 deaths; influenza, 174; pneumonia, 603; and violence, 114. In cities, 1164 deaths occurred, and in rural districts, 2108. The diseases which decreased in area of prevalence during March were: bronchitis, influenza, pneumonia, tonsillitis, diphtheria, typhoid fever, and inflammation of the bowels. Those increasing in area of prevalence were: rheumatism, measles, intermittent fever, diarrheal troubles, whooping-cough.

IOWA.

Dr. Carl Teske has been elected health officer of Sioux City, on the seventieth ballot.

Keokuk Medical College held its commencement exercises April 9, and conferred degrees on a class of 51. Prof. William C. Howell delivered the doctorate address.

KENTUCKY.

Dr. Joseph M. Mathews, Louisville, will deliver the doctorate address before the graduating class of the medical department of the University of Illinois.

Dr. Henry E. Tuley read a paper entitled "Some Rambling Thoughts on Infant Feeding," at the regular monthly meeting of the Lexington and Fayette County Medical Society, April 10.

General vaccination has been ordered in Lexington. Dr. Frank O. Young, president of the board of health, has appointed Drs. W. S. Van Meter, Joseph E. Riley, Charles L. Wheeler and Thomas Lewis as assistants, each to have a section of the city to vaccinate.

The Louisville Medico-Chirurgical Society will hold a special meeting May 27, at which Dr. Hobart A. Hare, Jefferson Medical College, Philadelphia, will read a paper. Arrangements are being perfected for the Clinical Society, the Surgical Society and the regular medical profession to be present.

Resignation.—In the issue of THE JOURNAL for April 13, mention was made of the differences between the faculty of the Hospital College of Medicine and Prof. Dudley S. Reynolds, of Louisville. We have been asked to state that no dissentions exist in the faculty, although the resignation of Dr. Reynolds was requested, and he is not now a member of that body.

MARYLAND.

Vaccin physicians have been appointed as follows: Drs. George F. Chambers, Philip Briscoe, Abram J. Williams and Elsworth H. Hanman, for Colvert County.

Smallpox.—The Maryland State Board of Health will establish a quarantine against Sussex County, Del., unless the authorities of that county take prompt measures to control the epidemic prevailing there. These measures as laid down by the board will include: the isolation of those affected or exposed in a pest camp, or hospital or a place of detention under medical and police surveillance; general vaccination; disinfection of houses and destruction of articles that can not be disinfected; daily official reports to be furnished to the health officers of the adjoining counties of Maryland, and the appropriation of enough money to cover the cost of this work. If a satisfactory reply is not promptly received, notices will be sent to the railroads not to sell tickets from Sussex County to Maryland. The board is considering the propriety of proceeding against the authorities of Somerset County, the only county in Maryland that has not complied with the law requiring local health boards. The smallpox situation in the state was as follows on April 14: 1 case each in Montgomery, Garrett and Caroline counties, 5 each in Allegheny and Wicomico counties, and 2 in Dorchester County. At Seaford, Del., between March 16 and April 9, 65 cases were treated.

Baltimore.

Dr. and Mrs. William Green sailed for Italy April 13, and will spend the summer abroad.

The Alumni Association of Baltimore University School of Medicine has elected Dr. N. Van Wirth Wright, president.

Two lots have been purchased on the corner of Fayette and Calhoun streets by the Maryland Medical College, to be used for a hospital.

Instruction of Epileptics.—The superintendent of schools has drawn the attention of the school board to the necessity of making provision for the instruction of epileptics who are barred from the schools. He proposes that a school room be set apart for such children.

Prof. Alexander C. Abbott, of the University of Pennsylvania, will deliver the annual address at the meeting of the Alumni Association of the University of Maryland School of Medicine, May 2, his subject being: "Some Advances that have been Made in Preventive Medicine."

The Robert Garrett Free Hospitals for Children have issued the 1900 report. To the city institution 262 cases were admitted. During the summer cases are treated at the sanitarium at Mt. Airy. The charity was established in 1888 by Mrs. Robert Garrett, and is under charge of Dr. Walter B. Platt.

Baltimore University School of Medicine held its commencement exercises, April 11. There were thirty-one graduates, among them two women, one being the head nurse at the hospital. Thomas A. Magness, of Maryland, and Daniel A. Shay, New York, were the prize winners, and William J. Kavanaugh, of Brooklyn, valedectorian.

MICHIGAN.

Dr. Allen D. McLean, Detroit, has received an appointment as captain and assistant surgeon of volunteers.

An amendment to the medical bill has been proposed, providing that physicians who have practiced in the state for five years may be registered regardless of their qualifications.

Kalamazoo courts have issued a peremptory injunction requiring the local school authorities to admit unvaccinated to the schools, the children of a mental healer who objects to vaccination on the grounds of religious belief.

Mortality for March.—The total number of deaths reported during the month was 3488, corresponding to a death-rate of 17.2 per 1000 per annum. This is an increase of 343 over the number for the preceding month, and of 355 over the number returned for March, 1900. There were 673 deaths of infants under 1 year of age, 203 of children aged 1 to 4 years, and 1024 deaths of persons aged 65 years and over. Important causes of deaths were as follows: tuberculosis, 251; typhoid fever, 45; diphtheria, 35; scarlet fever, 44; pneumonia, 489; influenza, 320; carcinoma, 112; violence, 126. There were 3 deaths from smallpox during the month.

MINNESOTA.

Dr. William H. Rowe, St. James, has been appointed a member of the State Board of Health.

Mayor Albert A. Ames, Minneapolis, has been appointed surgeon-general of the National Guard of the state.

For refusing to be vaccinated, a Minneapolis man was fined $10, on April 2, and the fine was not remitted as in the previous cases.

Dr. Arthur B. Ancker, St. Paul, has been unanimously reelected physician of St. Paul and of Ramsey County, and superintendent of the City and County Hospital.

MISSOURI.

Barnes Medical College, St. Louis, held its annual commencement exercises, April 12.

Dr. Robert D. Haire, Clinton, fell while going down stairs, at Schell City, April 2, and sustained a comminuted fracture of the right leg.

St. Louis College of Physicians and Surgeons held its commencement exercises April 9. Prof. Albert Fulton delivered the faculty address.

A physician in charge at the Kansas City post-office is provided for by the appropriation bill just passed. The duties of the office will be light and the salary $1200 a year.

The verdict against Weltmer, the "magnetic healer" of Nevada, for $7500 damages for injuries received by Mrs. Longan, while receiving treatment by one of his operatives, has been confirmed by the circuit court.

MONTANA.

The State **Board of Health,** at its meeting in Helena, April 1, elected Dr. William Treacy, Helena, president, and Dr. Albert F. Longeway, Great Falls, secretary.

The Board **of Medical Examiners,** at its meeting April 4, examined four candidates for license to practice medicine, and elected Dr. John A. Sweet, Great Falls, president; Dr. William C. Riddell, Helena, secretary, and Dr. George H. Barbour, Helena, treasurer.

NEW JERSEY.

The Board **of Health of Northampton** has issued instructions commanding all persons to undergo vaccination by April 15.

Christ Hospital, Jersey City, is to receive $10,000 on the death of the daughter, and of the executor of the will of Mrs. Edna J. McPherson, widow of the senator from New Jersey.

Dr. **Alexander W. Rogers,** Paterson, after more than sixty years practice has decided to lighten his duties and has resigned from the Medical Board of the General Hospital, of which he had been a member since its origin.

NEW YORK.

An epidemic of smallpox is reported in an orphan asylum at Albany.

A **training school for nurses** has been inaugurated at the German Hospital, Buffalo.

Sanatorium for Consumptives.—The committee has reported Senator Davis's bill providing for the erection of a sanatorium for consumptives, in the Adirondacks, with the amendment that the $20,000 for furnishing must be taken out of the appropriation of $100,000.

Society for the Prevention of Consumption.—This society has been formed in Buffalo, and Dr. Benjamin Long made chairman of a committee to effect an organization. Dr. Bissell, city bacteriologist, was made secretary of the committee. It will be a society similar in scope to the Laennec Society of Baltimore.

Divided Examinations.—A bill has been introduced providing that the regents of the University of the State of New York may, in their discretion, divide the examinations required for a license to practice medicine, permitting a candidate to take the examinations in anatomy, physiology and hygiene and chemistry at the end of two years of study, instead of requiring, as by the present law, the examinations in these subjects to be taken with the others at the end of the four years' course.

New York City.

Dr. **William E. Young,** formerly in charge of the hospitals on Randall's Island, has been appointed superintendent of the insane pavilion at Bellevue Hospital.

New Cases of Smallpox.—Three cases were discovered in the New York Foundling Hospital, and so far this month there has been an average of 7 a day. In January the average was less than 3 cases, and in March it was 6.3 Since the commencement, on November 5 last, there have been altogether 590 cases, with 89 deaths, or a mortality of about 15 per cent.

Obstacle to Nurses Home.—A friend of the Presbyterian Hospital having given $300,000 for the erection of a nurses' home, steps were at once taken to carry out the provisions of the gift. But an obstacle has already been met in the shape of a temporary injunction issued on the application of a neighboring property owner. The contention is that the deed of the property contains a clause restricting the buildings to be erected to those which shall not be "noxious and offensive to the neighboring inhabitants," and some of the property owners seem to think that such a home will be offensive to the neighbors.

Burning of South Hospital.—The advantages of a properly conducted fire drill were well exemplified when the old South Hospital on Randall's Island took fire on the night of April 10. Ninety-four inmates, all boys between 6 and 14 years, were awakened by the familiar sound of the fire gong, and almost mechanically they jumped out of bed, pulled on their trousers and gathered up their other clothes as they had been taught to do. In less than two minutes they had formed in line and were out of the building. The building is nearly seventy years old. It was nearly destroyed before the arrival of the city fire apparatus.

Tenement House Legislation.—Governor Odell has signed the four tenement house bills, thus putting on a firm footing a movement which should do much toward improving the condition of the tenement dwellers in New York City. The definition of a tenement, i. e., any building in which three or more families reside, has not been changed. The greatest evils of the present system arise from the lack of proper sanitary supervision. Under the new law, it will be the duty of the Board of Health to inspect each tenement house in the city at least twice before 1902. In the past the responsibility for the enforcement of tenement house laws has been divided among the health, building, police and fire departments. The present bill creates a tenement-house commissioner, to be appointed by the mayor, and hold office at the latter's pleasure. His salary will be $7500, and he will be under bonds for $20,000 for the faithful performance of his duties. The principal reforms contemplated by this new law are furnishing more air and light to the dwellers in tenements, the doing away with dark interior rooms, securing proper sanitary appliances for each family, proper protection against fire and the enforcement of the laws in regard to such houses. A novel feature of the law is that it fixes what shall be the minimum size of rooms, i. e., they must have at least 120 square feet of floor area.

PENNSYLVANIA.

Dr. William B. Ulrich has been elected a member of the board of managers of the Chester Hospital.

Smallpox in the State.—An epidemic is now prevalent in the eastern part of Mercer County; 25 cases had occurred with one death up to April 9, all of which had developed during one week. A shotgun quarantine is being maintained until the State Board of Health takes charge of affairs. At Sandy Lane there are 20 cases of smallpox now under quarantine, with 1 death. At Steelton the disease is on the increase and 5 new cases have occurred, making a total of 40 in this locality. Under the advice of Dr. Benjamin Lee, secretary of the State Board of Health, all public meetings will be discontinued. Considerable excitement occurred at Greensburg on April 9, on the recognition of a case of smallpox on the public streets. The man was followed home and is now under quarantine. In Steelton, April 11, the health authorities, on recognizing 2 cases of smallpox, attempted to remove the patients to a hospital, where they met with resistance on the part of the father, who absolutely refused to permit the removal of the children. The Board of Health may carry the matter into the courts. At Bradford, on the same day, citizens set fire to an abandoned school-house near the city in order to prevent the health authorities from converting it into an isolation hospital for the care of smallpox.

Philadelphia.

Dr. L. Webster Fox has been appointed a member of the board of managers of the Orthopedic Hospital.

Through the will of Hannah H. Toland, $2000 has been left the Ladies' Executive Committee of the Presbyterian Hospital, and $5000 to the Germantown Hospital and Dispensary.

A portrait of the late Dr. William Pepper has been presented to the American Philosophical Society. The presentation speech was made by Dr. Horace Howard Furness on behalf of the donors.

"**Hospitalism**" has again shown its manner of doing business here during the past week, where it is claimed that the rivalry existing between certain of these institutions has become so great that a real competition for cases has begun. It is claimed that a children's hospital has been receiving adult accident cases, and that a protest was made by other hospitals. It is now announced that the above hospital will receive no more such adult cases.

Medical Inspection of Schools.—Drs. Charles A. E. Codman and J. H. McKee, representing the Association of School Medical Inspectors of this city recently appeared before the committee on hygiene of the board of education to consult relative to the powers of the school medical inspectors, which is at present very limited. The present regulations governing this matter are insufficient since they have not the power to exclude children suffering from certain diseases. The complaint has been made that the principals in some of the schools are not in harmony with school medical inspection and do not like to be bothered with it. The work of the inspectors is voluntary, with small hopes of receiving compensation.

GENERAL.

Plague at Ann Arbor.—The young man whom we reported last week as probably suffering with plague contracted while conducting experiments is still in an isolation hospital, doing finely, and out of danger. The disease is of the pneumonic type. There are no new cases, and as every precaution has been taken there is no fear of any.

Wyoming State Hospital.—Owing to the extensive mining interests it has been necessary for the state to add another wing to the hospital at Rock Springs, Wyo., which is now about completed. When finished there will be accommodation for about eighty patients. Building of a nurses' dormitory and other buildings has also been authorized by the legislature.

CANADA.

Dr. J. F. W. Ross, Toronto, has returned from Havana, Cuba.

Dr. John Marquis, Brantford, has been appointed surgeon to the Ontario Institute for the Blind.

Dr. James Third, professor of medicine at Queen's University, was seized with an attack of apoplexy recently and is not expected to recover.

Dr. Robert Bell has succeeded the late Dr. G. M. Dawson as head of the Canadian Geological Survey. Dr. Bell took his medical degree in 1878, at McGill.

Dr. V. H. Moore, Brockville, has been appointed a member of the corporation of the Royal College of Physicians and Surgeons, Kingston, in place of Dr. Lavell, deceased.

Nova Scotia expended, during the past year, on public charities, $132,100, an increase of $3,900 over the previous year. The excess was due to improvements at the Mount Hope Hospital Asylum.

Cigarette smoking is a prevailing habit among the schoolboys of Halifax, N. S.; inquiry has elicited the fact that 2500 have used tobacco at some time during school life, and that over 1000 use it occasionally now.

The Ontario Teachers' Association, at the recent meeting in Toronto, decided to ask the Minister of Education to substitute the teaching of physiology in the public schools of the province for hygiene, with simple lessons on food, drink, diet, clothing, light, ventilation, exercise, narcotics and stimulants.

Personals.—Dr. Adam H. Wright, professor of obstetrics in Toronto University, has about recovered from a prolonged attack of blood-poisoning received through attending a charity case at the Burnside Lying-in Hospital. He will leave shortly for the Mediterranean, accompanied by Dr. W. P. Caven, associate professor of clinical medicine, and Dr. J. T. Fotheringham, professor of therapeutics at Trinity Medical College.

Victoria General Hospital, Halifax.—A bill has been introduced into the Nova Scotia legislature to correct the evil of allowing patients to remain in the general hospital after having been cured of their maladies, this having become common practice in that institution. The bill provides that hereafter, if the patients are not removed after a reasonable time, the superintendent shall notify the clerk of the municipality or town from which a patient came, and if after such notice the patient shall not be removed, the superintendent is at liberty to place the patient in the poor-house at the cost of said municipality or town.

Concerning the Prevalence of Heart Failure.—A leading Montreal daily newspaper notices, editorially, that there have been a great number of sudden deaths throughout Canada during the past year, and that in the great majority of cases there has been no inquiry into their cause. La grippe, it is suggested, may have had something to do with this, and this disease has brought evils in its train in the way of a host of patent "cures," which, along with cures for headaches, etc., have come to be considered not above suspicion. In this connection, it is pointed out to coroners that it would be within their duty to institute closer inquiries in connection with every sudden death, for the purposes of ascertaining whether the deceased had been using these new remedies.

Concerning the Universities.—While Toronto University is anxious that it be the only provincial or state-aided university, and is declaiming against Queen's receiving any government aid, the government, at the tail-end of the session of the legislature, brings down a supplementary estimate which casts a deep gloom over the friends of Toronto University, while Queen's is jubilant over its good fortune, and will profit to the extent of $22,500 annually for the next five years. Queen's University is full of corporate life. The graduating class, which numbers seventy students, has contributed $50 each toward the founding of a fellowship which will increase the facilities for the prosecution of post-graduate work in that institution. The amounts can be paid when it suits the convenience of the subscriber, in the meantime he paying the interest alone. A Chinese laundryman of Kingston contributed $50.

The Barbers' Laws in Quebec.—The Barbers' Association has been the means of doing a great deal of good in Montreal and the province of Quebec since its formation. The jurisdiction of the Association is only in cities having a population of 5000 or over; and under the provincial law a man can not work in a factory during the day and run a barber shop at night and on Sundays. This law, as it now stands, compels barbers to take out a license or else go out of business; and the rules of the Association make it obligatory on the part of customers having any skin or scalp diseases, to have their own razors, soap, brushes, etc. Antiseptic measures are carried out in all of these barber shops; and the Association has submitted to the Board of Health of the Province, an antiseptic cabinet which has been approved of, and hot water is required by law to be constantly in all of these shops. The public in Quebec province does not run the same risk as formerly since the adoption of the provincial law.

Chinese Sanitation in Victoria, B. C.—There is a commission at present sitting in Victoria, B. C., inquiring into the question of Chinese labor; and before that body Dr. O. M. Jones, the medical health officer, appeared to give evidence as to the health and sanitation of Celestial quarters in Victoria. He states that lately there has been much improvement from new buildings, but that the Chinese neither regard nor observe the well-known laws of sanitation. He considers them a slight menace to public health, especially as there is always smallpox in the Chinese ports, although, personally, they are very careful to be vaccinated. The medical health officer has attended about five cases of leprosy. The Chinese took every precaution to conceal cases of leprosy, but there has not been recorded a distinct case of leprosy originating among children of white people. Once there was an outbreak of mumps among the clerks of the city banks, and Dr. Jones attributed it at the time to handling Chinese money, as there was then an epidemic of mumps among the Chinese. As to calling in physicians when sick, many of them, especially the wealthy class, get white physicians when sick. Dr. Jones said he would not advise medical supervision of the Chinese hospital, other than occasional inspection, which is now being carried out by the city medical health officer.

FOREIGN.

The Scalpel, edited by Dr. Thomas Dolin, Halifax, Eng., has discontinued publication on account of the incompatability of editorial work with the demands of a large practice.

League Against Syphilis.—A society has been formed at Paris, officially entitled the "League against Syphilis," with Fournier as the president. The annual dues are $2. The membership is open to physicians and other persons interested in the campaign against syphilis, including women. The board is composed of eighteen prominent physicians.

Deaths in the Profession Abroad.—O. von Weiss, privat docent of obstetrics and gynecology at Vienna, in charge of the pioneer hospital in Bosnia. . . . A. M. Berger, a prominent ophthalmologist of Munich. . . . S. Asch, of Breslau, said to be the original of L'Arrongés "Doctor Claus." . . . V. Maecherano, professor of surgery at Palermo. . . . E. Sacchi, privat docent at Geneva.

Attempted Bribery.—The mayor of Marseilles, France, and his assistant, are physicians. The latter was approached by a young doctor who offered him $200 if he would annul a certain competitive examination for the post of surgeon of the hospitals in which the young physician had been defeated. He was arrested for attempted bribery, and he has been condemned by the courts to three months' imprisonment.

Medal for Brouardel.—The students and friends of Professor Brouardel, dean of the Paris faculty of medicine and the great medico-legal authority, have opened a subscription to present him with a gold medal on the occasion of his promotion to be grand officier in the Legion of Honor. A copy of the medal will be sent to every person who subscribes $5. The medal is to be the work of Roty. Twenty-five francs and the visiting card of the subscriber should be sent to Dr. Pupin, secretary of the Faculté de Médecine, before July 1.

Progress of the Plague.—For the week ending March 30 there were in Capetown 60 fresh cases of plague and twenty-two deaths. The total number of cases since the beginning of the outbreak are 287 and the deaths 99; of the latter, 19 occurred in Europeans. On April 1 there were under observation 630 persons ill with the disease or as "suspects" or "contacts." Corpses of natives are occasionally found, which shows that cases of the disease are being concealed. In all India during the week ending March 9, there were 7879 deaths from the disease, an increase of 952 over the previous week, and the highest number ever recorded in one week. In Bombay City

the deaths were 1196, in the Bombay presidency exclusive of the city, 754. In Bengal, exclusive of the metropolis, there were 4525 deaths, an increase of 459 over the previous week. In Calcutta the deaths have also increased to 557. In Mauritius, for the week ending March 28, two cases of plague both fatal were reported. Advices from New South Wales report that plague made its appearance in the large cities of Australia a little over a month ago, and while American ports are in close shipping connection with Australian ports by regular mail boats to San Francisco and Vancouver, sailing vessels to Oregon and Washington, and steamers to New York City, the period necessitated for the trip covers the quarantine time and the only danger would be from the cargoes. One case was reported there on a transport arriving from Cape Town, and a few days later, after the cargo was removed, another appeared. There was one case in Colmslie, the quarantine station and the largest city in Queensland. Sporadic cases are reported from several towns and 1 new case in Sydney, and 2 in Perth, as late as March 15, the date of our correspondent's advice.

Mr. **Arthur Coppen Jones,** whose death on March 8 is announced in the *British Medical Journal,* though not a medical man, was one whose services to medical science deserve recognition here. He is best known to the profession for his researches in bacteriology, and especially in connection with the morphology of the tubercle germ, which he suggested is a fungus rather than a bacterium. He was a prominent authority in this department of microscopic botany, and the value of his work generally recognized. His death, which occurred at the early age of 35, was due to tuberculosis from which he had suffered, first as a pulmonary involvement which became quiescent, but later appeared in the form of vesical tuberculosis.

Prof. **Joseph Von Fodor,** whose death is announced from Hungary, was one of the most prominent sanitarians of eastern Europe. He was born July 16, 1843, studied medicine at Budapest, Vienna, and Munich, and was connected with the University of Budapest from very shortly after his graduation. His regular appointment as ordinary professor of state medicine in the University of Klausenburg, occurred in 1882, and two years later he was called to the newly-founded chair of hygiene at Budapest, where he has been an active worker ever since, leading in his special department. Besides the honors given him at home, the degree of LL.D. was conferred on him by the University of Cambridge in 1891, and he was corresponding member of many foreign scientific societies. At home he was dean of the faculty of medicine in his own university, and in 1894 rector. He was ministerial councillor of the Hungarian government and one of the presidents of the Superior Health Council of Hungary. Among his numerous writings, many having received prizes and been recognized otherwise, his chief work was "Hygienic Researches on the Air, Soil and Water," in two volumes, published in 1881 and 1882. He was also the author of a text-book on hygiene for schools, which appeared in 1887. As a teacher, he was one of the most successful. His personality was said to be most amiable, and, as the *British Medical Journal* says, in his premature death at the early age of 58, the world has suffered a real loss.

LONDON LETTER.

The Microbe of Rheumatic Fever.

At the Chelsea Clinical Society, Drs. F. G. Poynton and A. Paine read a paper on the "Infectivity of Acute Rheumatism," with especial reference to chronic types of the disease. They said that acute rheumatism is a definite disease with definite peculiarities. Therefore, if one microbe is constantly present which, when isolated, produces identical lesions in animals, probably it is specific. From 14 cases of rheumatic fever they isolated a diplococcus which grew in liquid media in streptococcal chains and on solid media in staphylococcal masses. Triboulet before and Wasserman and Malkoff during the time the authors were working had also isolated a diplococcus from cases of acute rheumatism. The authors isolated the organism three times from the blood of patients suffering from rheumatic pericarditis, twice from the throat, four times from the pericardium, twice from the urine, three times from the cardiac valves, and once from a rheumatic nodule. In the rabbit, by inoculation, they had produced lesions identical with those found in man.

Myasthenia Gravis.

At the Edinburgh Medico-Chirurgical Society, Dr. E. Bramwell has pointed out the necessity of every practitioner being acquainted with this recently recognized disease, since it is often mistaken for hysteria, is often fatal, and in some cases can be recovered from, under appropriate treatment. He described the case of an unmarried woman, aged 23, who had previously enjoyed good health. Ten weeks before he saw her, without apparent cause, she gradually developed difficulty in speaking, swallowing and chewing, and weakness of the muscles of the eye, palate, neck and arms. In the morning she was usually free from symptoms, but as the day went on weakness in the muscles developed. The use of any of these muscles induced temporary paresis and a feeling of fatigue. There was no atrophy, and the deep reflexes were brisk. Absence of weakness in the legs and of ptosis was an unusual feature in the case. In making a diagnosis, attention should be paid to the following points: 1, the presence of muscular weakness often slight and unassociated with atrophy; 2, the facility with which the muscles become exhausted by voluntary effort (myasthenic state) and by faradism (myasthenic reaction); 3, absence of sensory symptoms apart from the fatigue caused by exhaustion, of sphincter trouble, and of mental disturbance. The prognosis is uncertain. Most cases are characterized by temporary improvements and relapses. Of 60 collected cases, 23 were fatal. In the majority death was due to dyspnea. Since exertion and excitement increase the symptoms they must as far as possible be avoided. All solid food should be minced in order to spare the muscles of mastication and to avoid the risk of choking.

The Company of Barbers and the Royal College of Surgeons.

With mediæval ceremony the Honorary Freedom of the Barbers' Company has been conferred on Sir William MacCormac. The quaint charge was read in the presence of the assembly, the members of the court and recipient standing, while those below the ranks of an assistant and the visitors remained seated. A banquet followed. This is a very ancient institution among the barbers. As far back as 1388 the Master certified that it was the practice once a year to assemble in feast and that there was an ordinance that none of the brotherhood should pay more than 14 pence each toward the feast. Sir William MacCormac expressed his appreciation for the distinction conferred on him by the venerable company. The Guild of Barbers is of such ancient foundation that its earliest records can not be traced. In the thirteenth century, before its final development into a trade guild it was partly religious in character and partly social. The barbers used to assist the monks to perform operations. In 1462, in the reign of Edward IV, they obtained a charter of incorporation and became a city company, "the better to protect the King's lieges from going the way of all flesh through the ignorance and negligence of various unskillful barbers and other practitioners of surgery." From remote time there was also a "Surgeons Guild," small in number and poor, and chiefly consisting of military surgeons. They become merged into the Barbers Company in 1540 and remained united until they separated in 1745 and were constituted a Company of Surgeons, a movement attended by many quarrels. From this body was evolved the present College of Surgeons, incorporated in 1800. The election of the president of the College of Surgeons to the honorary freedom of the Barbers' Company constitutes the first official link between the two societies since their separation.

The Nature of Yaws.

At the Polyclinic, Mr. Morgan Finucane, assistant medical officer of Fiji, recently read a very remarkable paper on yaws. He maintained, in the most uncompromising manner, that the disease is syphilis. This view has long been held by Mr. Jonathan Hutchinson, in opposition to all the colonial surgeons who have observed the disease. Mr. Hutchinson had not till quite recently himself observed a single case of what is asserted to be yaws. He based his views on the published descriptions and portraits of the disease, which show complete similarity to syphilis—a primary stage of a local lesion which can originate in contagion, a secondary general eruption, tertiary manifestations of bone disease, and amenability to mercury and iodid of potassium. The frambesial or mulberry-like type of eruption Mr. Hutchinson attributes to the influence of race and climate. Yaws is simply the parent form of syphilis, which was introduced into Europe at the time of Columbus. Mr. Hutchinson's arguments, though enforced with his usual dialectic skill and command of facts and his unrivalled knowledge of syphilis, have always failed to convince the colonial surgeons who have observed yaws in its native haunts. His great argument is: If yaws is distinct, how is it that a chronic disease which is so widely scattered over different parts of the world never comes to Europe? Because when it does it is always recognized as syphilis. Hence the great importance of Mr. Finu-

cane's view, formed after an intimate acquaintance with Fijian yaws for seven years, that the disease is "modified syphilis allied to though not identical with the syphilis of Europe." He thinks that the syphilitic poison was introduced into the Fijian race—probably from Tonga—by early voyagers to the South Sea in the latter part of the eighteenth century, and there took on an epidemic character. In Scotland a disease named sibbens or sivvens, which was epidemic as late as the last century, is recognized by many authorities as syphilis. Coko or Fijian yaws is epidemic in Fiji and scarcely any native escapes the disease. It is usually contracted in infancy—between the ages of 6 months and 2 years—by actual contact with yaws-sores or it is possibly conveyed by flies. The commonest sites are the angles of the mouth and nose and the anal and vaginal margins. A few large isolated sores of a papular character like a mulberry appear. On mucous membranes the sore in no way differs from a syphilitic condyloma. Successive crops of minute roseolar papules, soon becoming vesicular, are formed. If the child survives he lapses into an anemic stage, pigmented scars being left. A stage of health then follows. From the age of 8 or 9 to 30 there is a "late stage" of the disease. Circular punched-out ulcers are formed, especially on the legs. The general health becomes again affected, and anemia sets in. Periosteal nodes on the legs, ribs, forearms, face and forehead are common. In severe cases the whole shaft of a long bone is involved in periostitis, producing deformities which are common among the Fijians. They have a special name for the deformity: "*A tamata selevan*" from the shape of the bone resembling the curve of a cutlass. It is interesting, in this connection, that the French speak of the sabre-shaped tibia of syphilis. Serpiginous ulceration of the mucous membranes may ocur, producing hideous deformity. There may be deep ulcerations on the body and limbs, rhagades of the hands and feet, and palmar and plantar psoriasis. Abortion is very common in Fijian women and is principally due to yaws. Extensive ulceration of the nose and throat, with bone destruction, may take place. When the Indian coolie or Europeans contract yaws the disease is not distinguishable from syphilis. Evidences of hereditary syphilis are rare, perhaps because severely syphilized children are still-born. But typical cases showing Hutchinson's teeth, Parrot's nodes, etc., are occasionally seen. Syphilis and yaws appear to be mutually protective against one another. Mr. Finucane has never been able to obtain a history of previous syphilis in an Indian who contracted yaws, nor of one who contracted yaws suffering subsequently from syphilis. Syphilis as seen in Europeans is extremely common in the Indian coolies of Fiji. Fijian plantation laborers frequently have intercourse with Indian coolie women, among whom syphilis is common, yet Mr. Finucane has never seen or heard of a primary sore in a Fijian. He suggested that as the colonial office is now sending out malaria commissions it should not overlook the subject of yaws, and that a commission of skilled dermatologists should be sent out to settle the question of the nature of the disease and the means of mitigating it.

Association News.

Hotel Accommodation at the St. Paul Meeting.—St. Paul will be able to care for the visiting physicians at the meeting of the AMERICAN MEDICAL ASSOCIATION without trouble, and we can assure all who attend comfortable and convenient quarters. The headquarters of the ASSOCIATION will be at the Ryan Hotel, a large and excellently equipped hostelry, with well-lighted and roomy apartments, modern plumbing, tasteful furnishings, and a cuisine which will satisfy the taste of the most exacting. Spacious quarters have been set aside for the officers of the ASSOCIATION, and the beautiful lobby will prove a favorite meeting place for the members. In the adjoining building, the Ryan Annex, space has been provided for the bureau of registration, exhibits, and assembly rooms for the pathological and other Sections. Within half a block is the Metropolitan Opera House, where the general meetings will be held, and the assembly rooms of the various sections will be within a radius of four blocks of the hotel. Street-cars on all lines pass the door at intervals of from two to five minutes, by means of which all parts of the city will be accessible. The Aberdeen Hotel is a beautiful hostelry of modern construction, situated in the residence district, three-quarters of a mile from the Ryan, and easily accessible by street-cars which run at intervals of three minutes. It is beautifully furnished, the rooms large and commodious and the cuisine unsurpassed by any hotel in the country. The Aberdeen is especially desirable for those members who expect to bring ladies with them, as it is free from the objection of the noise and dust of the center of the city, and is convenient to the homes which will be thrown open by the hospitality of the ladies of St. Paul. It is expected that this hotel will be largely occupied by those members who will bring their families with them. The Merchants' Hotel is situated within two blocks of the Ryan and will accommodate several hundred guests. It has been refitted and refurnished throughout and is in every way desirable. It is famous for its hospitality and will be found to be comfortable and attractive in every respect. The Windsor and the Metropolitan hotels are large modern ones, conducted either on the American or European plan, and will accommodate about 400 guests each. They are situated in the business center of the city, convenient to all assembly halls and street-cars. The rooms are comfortable, beautifully furnished and their table service is unsurpassed. As auxiliary to the above list are the Clarendon, Colonnade and the Astoria hotels, which are comfortable, and in every way desirable, although the rates are somewhat less than at the larger hotels. It is expected that many members will take quarters by preference at these hotels, as they are much quieter and more free from the turmoil of convention time than other more crowded hostelries. In addition, the Minnesota Club and other similar institutions will throw open their doors for the accommodation of guests. At all the hotels many reservations have already been made and the choice rooms are being picked out by those who write early for accommodations. No favoritism is being shown, and the old rule, "first come, first served," will be observed in the reservation of rooms. In regard to rates at hotels, an arrangement has been made that in no case shall the charges be more than the customary and usual rates. It is to be observed, however, that as it will be necessary to accommodate a large number of people, it will be impossible to give to one person quarters that usually accommodate two people without charging him the rate for two. Any one desiring a room which has two beds will be required to pay for two persons, but can, without extra charge, share his quarters with a friend and thus lessen the expense. It is expected that there will be at St. Paul more people than can be accommodated at the hotels without overcrowding, and the Committee has arranged that many private houses will be opened to receive such guests. At the depot and hotels members of the Committee will be stationed with a corps of messenger boys and when comfortable quarters can not otherwise be secured, the guest will be sent in company with a messenger to comfortable rooms in the residence portion of the city. By this arrangement no one will have to wait for accommodations, but every guest who can not be accommodated at the hotels will be at once shown to pleasant and comfortable rooms in the various apartment houses and homes of the city. It is desired by the Committee that such of the members as intend to come to St. Paul shall write without delay to the Chairman of the Committee on Hotels, Dr. Arthur Sweeney, stating the number of persons in the party and the character of accommodation desired. By this method definite reservations of rooms can be made, the details of price and location settled, and on the arrival the physician thus provided for can be shown to his room without delay. In addition to the above-named hotels St. Paul's sister city, Minneapolis, taking thirty to forty minutes by electric cars, has many magnificent hotels.—J. FULTON, Chairman of Committee of Arrangements.

The St. Paul Meeting.—The Committee of Arrangements reports that it has arranged for the entertainment of the ASSOCIATION members in a manner that will be pleasant to all. On Tuesday evening the customary section banquets will take place, and these will be as attractive as possible. On Wednesday evening there will be an out-door promenade concert on Summit Avenue, one of the most beautiful residence streets in the world, and which will be quite generally illuminated. A number of private receptions will be given and the entertainment as a whole will be a very attractive one. Later in the

same evening a "smoker" will be given at the Ryan Hotel. On Thursday evening a ball and promenade will be given on the grounds of the University of Minnesota, with dancing in the Armory. The grounds of the university will be illuminated and various buildings be thrown open. Special cars will be provided for taking the guests from St. Paul to Minneapolis and return. On Friday evening the special train for the Yellowstone Park will leave. There is a large general committee of the ladies of St. Paul who have arranged for a number of entertainments and excursions to take place during the mornings and afternoons of the meeting, but the details have not yet been definitely decided. The weather in St. Paul is always fine during the first week in June, and there is every reason to believe that everything possible will be done for the convenience and pleasure of all who attend the meeting.

To Commemorate Invention of Ophthalmoscope.—At the last meeting of the ophthalmic Section of the AMERICAN MEDICAL ASSOCIATION, the undersigned were appointed a committee to arrange exercises, etc., at the coming meeting in St. Paul, to commemorate the fiftieth anniversary of the invention of the ophthalmoscope. The Committee is preparing an historical exhibit of ophthalmoscopes and is endeavoring to secure such older models as they can borrow. Due credit will be given.—Harry Friedenwald, M.D., 1029 Madison avenue, Baltimore; Casey A. Wood, M.D., Chicago.

Election of Delegates.—The Medical Society of Northampton County, Pa., at its annual meeting, elected the following delegates to the AMERICAN MEDICAL ASSOCIATION: Dr. Albert A. Seem, Bangor; Dr. John C. Keeler, Windgap; Dr. William H. Dudley, Easton; Dr. Henry D. Michler, Easton; Dr. E. Wallace Richards, Easton; Dr. Samuel S. Appel, Easton; Dr. Charles McIntire, Easton, and Dr. William P. Walker, South Bethlehem.

Minnesota State Medical Society.—Through an oversight the Minnesota State Medical Society was omitted from the list of affiliated societies published last week.

Section Programs for the St. Paul Meeting.

Section on Obstetrics and Diseases of Women.

Progress in Gynecology and Obstetrics. Henry P. Newman, Chicago.

Indication for Vagino-abdominal Hysterectomy. Rufus B. Hall, Cincinnati, Ohio.

Electrothermic Hemostasis in Abdominal and Pelvic Surgery. A. J. Downes, Philadelphia.

The Advantages and Disadvantages of Drainage After Abdominal Surgery. Hunter Robb, Cleveland, Ohio.

The Uses and Abuses of Morphin in Abdominal Surgery. L. H. Dunning, Indianapolis, Ind.

Bladder and Ureteral Surgery. Howard Kelly, Baltimore, Md.

The Relative Merits of the Different Methods of Uretro-ureteral Anastomosis. J. Wesley Bovée, Washington, D. C.

Results, Immediate and Remote, of Conservative Surgery. A. Goldspohn, Chicago.

Fibroid. Thomas S. Cullen, Baltimore, Md.

The Complication and Degeneration of Fibroid Tumors, as Bearing on Treatment of These Growths. Chas. P. Noble, Philadelphia.

How Shall We Deal with Uterine Myomata. E. E. Montgomery, Philadelphia.

Contributing Factors in the Production of Peritonitis. J. D. Clark, Philadelphia.

Enterostomy in the Treatment of Diffused Peritonitis. W. E. B. Davis, Birmingham, Ala.

A Case of Streptococcus Infection Following Labor; Operation; Recovery. W. H. Humiston, Cleveland, Ohio.

Carcinoma of the Uterus. J. M. Baldy, Philadelphia.

The Accidents and Complications of Pelvic Surgery and Their Treatment. John B. Deaver, Philadelphia.

Treatment of Posterior Displacement of the Uterus. Augustin H. Goelet, New York City.

Surgical Treatment of Retroversion of the Uterus. Franklin H. Martin, Chicago.

A New Operation for Retrodisplacement of the Uterus. Emil Ries, Chicago.

Atresia Hymenalis. O. Thienhaus, Milwaukee, Wis.

Causes of the Increasing Sterility of American Women. George J. Engelmann, Boston.

Treatment of Incomplete and Inevitable Abortion. J. Clarence Webster, Chicago.

Position of Patient During Delivery. W. D. Porter, Cincinnati, Ohio.

Asepsis in Midwifery. E. Gustave Zinke, Cincinnati, Ohio.

The Indication and Contraindications for the Use of the Curette in Obstetric Practice. Henry D. Fry, Washington, D. C.

Puerperal Asepsis. John F. Moran, Washington, D. C.

Obstetrics as a Specialty. Joseph Price, Philadelphia.

The Advantage of Drill upon the Manikin. Eliza H. Root, Chicago.

Cesarean Section as a Method of Treatment for Placenta Previa. W. J. Gillette, Toledo, Ohio.

Pregnancy Following Ventro-suspension of the Uterus, Reuben Peterson, Chicago.

Puerperal Eclampsia; Its Etiology and Treatment. T. J. Beattie, Kansas City, Mo.

Section on Nervous and Mental Diseases.

Titles for additional papers sufficient to complete the program up to thirty, according to the Constitution of the ASSOCIATION, with short abstracts, should be sent to the Secretary before May 1, 1901.

This program is not in the order in which it will finally appear, although the endeavor will be to place the papers in the order of reception as far as consistent with the proper arrangement of the list.

Any members desiring to attend the banquet of this Section, on the second evening of the meeting, will confer a favor by reporting early to the Secretary, 1407 Locust St., Philadelphia.

Chairman's Address. H. A. Tomlinson, St. Peter, Minn.

SYMPOSIUM ON SYPHILIS OF THE BRAIN.

(This symposium is arranged with especial reference to the needs of the general practitioner.)

Nervous Manifestations. Hugh T. Patrick, Chicago.

Mental Manifestations. Richary Dewey, Wauwatosa, Wis.

General Pathology of Nervous Syphilis. F. W. Langdon, Cincinnati, Ohio.

The Specific and Non-specific Lesions Resulting from Syphilis, and Their Influence upon Diagnosis, Prognosis and Treatment. J. T. Eskridge, Denver, Colo.

Etiology of Paretic Dementia. Frank P. Norbury, Jacksonville, Ill.

Symptomatology of Cerebral Hemorrhage. F. Savary Pearce, Philadelphia.

Treatment of Cerebral Hemorrhage. D. R. Brower, Chicago.

The Virile or Genesiac Reflex as Pudic Nerve Innervation Phenomena. C. H. Hughes, St. Louis, Mo.

A Case of Alexia Caused by a Bullet Wound with Successful Location and Removal of the Latter. G. W. McCaskey, Fort Wayne, Ind.

What Can Be Done for the Epileptic in a Medical Way. R. H. Porter, Chicago.

The Treatment of the Acute Psychoses in Private Practice. C. Eugene Riggs, St. Paul, Minn.

Title to be announced. A. J. Pressey, Cleveland, Ohio.

Title to be announced. Curran Pope, Louisville, Ky.

Treatment of Neurasthenia. J. G. Biller, Cherokee, Iowa.

Title to be announced. Henry Waldo Coe, Portland, Ore.

Three Cases of Paralysis of the Serratus Magnus (Posterior Thoracic Nerve)—Alar Scapula. Augustus A. Eshner, Philadelphia.

Mirror Writing and Inverted Vision. Albert B. Hale and Sidney Kuh, Chicago.

Fear as an Element of Nervous Diseases and Its Treatment. John Punton, Kansas City, Mo.

A Case of Localized Amnesia with Remarks Thereon. Edward E. Mayer, Pittsburg, Pa.

Incipient Amyotrophic Latent Sclerosis with Recovery. Persistent Brachial Neuralgia from the Hypodermic Needle. Leo. M. Crafts, Minneapolis, Minn.

Injuries, Feigned and Real, with Their Differentiation and Medicolegal Aspect. Lambert Ott, Philadelphia.

Space Neuroses. John E. Purdon, Turlock, Cal.

Section on Stomatology.

Chairman's Address. R. R. Andrews, Cambridge, Mass.

SYMPOSIUM ON STATE BOARDS OF DENTAL EXAMINERS IN THEIR RELATION TO THE PROFESSION AND THE COLLEGES.

Methods of Appointment: 1. By State Universities—New York. 2. By State Boards of State Officials ex-officio, Nebraska. 3. By Governors on Recommendation of the Profession. William Carr, New York City.

Revenue for conducting the Work of the Boards of Examiners: 1. By Taxation of the People. 2. By Fees from Examination of Candidates. 3. By Taxation of the Profession. George L. Parmele, Hartford, Conn., and V. E. Turner, Raleigh, N. C.

The Dental College Standard: 1. Is it What it Should Be? 2. If Not, What Improvements Should Be Made? 3. How May the Requirements be Improved? Charles Chittenden, Madison, Wis.

Licensing: 1. By Examination. 2. By Diploma. J. A. Libby, Pittsburg, Pa.

SYMPOSIUM ON DEGENERACY OF THE PULP.

Preliminary Work. Eugene S. Talbot, Chicago.

Literature of the Pulp. Vida A. Latham, Rogers Park, Ill.

Cutting, Staining and Mounting. Martha Anderson, Moline, Ill.

Local Anesthesia. A. H. Peck, Chicago.

A Remedy for Certain Injustice Both to the Insured and the Company. W. E. Walker, Pass Christian, Miss.

Periods of Stress and their Dental Marks. Jas. G. Kiernan, Chicago.

Surgical Treatment of Cleft Palate. G. V. I. Brown, Milwaukee, Wis.

Infectious Diseases. Alice Steeves, Chicago.

Simple Gingivitis. Geo. T. Carpenter, Chicago.

Military Dental Practice, Its Modifications and Limitations. Henry D. Hatch, New York City.

The Tongue as a Breeding Place for Bacteria. M. H. Fletcher, Cincinnati, Ohio.

Pathology of the Alveolar Process. Eugene S. Talbot, Chicago.

Tuberculosis of the Alveolar Process and Surrounding Tissues and a Few Methods of Differential Diagnosis. V. A. Gudex, Milwaukee, Wis.

Married.

NELSON H. HENRY, M.D., to Mrs. Sarah Sloan, both of New York City.

WADE THRASHER, M.D., to Miss Olive Schmuck, both of Cincinnati, April 3.

EDWARD H. ABBOTT, M.D., to Miss Ethelyn Wells, both of Elgin, Ill., April 3.

P. C. BARNARD, M.D., to Miss Aggie Leslie, both of Indianapolis, Ind., April 5.

GEORGE W. HARRINGTON, M.D., to Miss Lizzie Williams, both of Hazleton, Pa., April 9.

H. E. MCLENNAN, M.D., Bay Mills, Mich., to Miss Camilla Knaggs, Bay City, Mich., April 3.

JOHN B. REYNOLDS, M.D., St. Joseph, Mo. to Miss Lula Moore, Platte City, Neb., April 10.

JOSEPH S. DEMAREE, M.D., Mackville, Ky., to Miss Eva Hatchett, Springfield, Ky., April 2.

EDWARD VERNON SILVER, M.D., to Miss Bessie M. Larson, both of Salt Lake City, Utah, April 3.

MARTIN A. ROBINSON, M.D., Victor, Colo., to Miss Aurora Catlett Horn, Hernando, Miss., April 18.

JOHN HERBERT CLAIBORNE, JR., M.D., to Miss Marie Louise Claiborne, both of New York City, at New Orleans, April 16.

GEORGE G. WENRICH, M.D., Grand View Sanatorium, Wernersville, Pa., to Miss Anna May Coar, New York City, March 6.

Deaths and Obituaries.

William Jay Youmans, M.D., New York University, 1865, died at his home in Mt. Vernon, N. Y., April 10, aged 62 years. After instruction under Professor Huxley he returned from Europe and finally settled in Minnesota, where he passed three years in the practice of medicine. After coming to New York he devoted most of his life to the *Popular Science Monthly*, of which, after the death of his brother, Dr. E. L. Youmans, he became chief editor. His preferences were always in the direction of chemistry and natural science.

John H. Grove, M.D., University of Pennsylvania, Philadelphia, 1849, died April 6, in Philadelphia, where for many years he had been connected with St. Agnes and St. Mary's hospitals. He was made a brevet lieutenant colonel for distinguished service in the Union military hospitals during the Civil War. He was a member of the AMERICAN MEDICAL ASSOCIATION, Association of Military Surgeons of the United States, and of local medical societies.

Albert Edgar Summers, M.D., Jefferson Medical College, Philadelphia, 1848, died at Charleston, W. Va., April 1, from pneumonia, after a short illness, aged 57. He was a private pupil of Dr. Goss, had charge of a Union army hospital at Charleston during the Civil War, and had been both speaker of the House of Delegates and president of the Senate of the state.

John Ferguson, M.D., College of Physicians and Surgeons, New York, 1855, who had practiced in Manchester, N. H., for forty years, with the exception of the period of the Civil War, when he was surgeon-major of the Tenth New Hampshire Volunteers, died at his home in Manchester, April 6, from paresis, after an illness of two years, aged 71.

William F. McClelland, M.D., Jefferson Medical College, Philadelphia, 1859, who had lived in Denver since 1862, and who was a pioneer in the study of the climatic influence of Colorado on pulmonary disease, died at his home in Denver, April 12, aged 80.

James C. Larsh, M.D., University of Maryland, Baltimore, 1842, died in Baltimore, April 3, from paralysis, aged 80. For forty years he practiced at Reisterstown, retiring and moving to Baltimore about eighteen years ago.

John Ambrose McKinley, M.D., Northwestern University Medical School, Chicago, 1894, died from tuberculosis, at El Paso, Texas, where he had gone in search of health, March 8, after an illness of one year.

George L. Gurney, M.D., Medical School of Maine, Brunswick, 1879, died at his home in St. Paul, Minn., April 6, aged 47 years.

Merritt H. Chandler, M.D., University of Vermont, Burlington, 1869, died at his home in Woodstock, Vt., April 6, after an illness of three months, from Bright's disease, aged 56.

John R. Kirkland, M.D., University of Pennsylvania, Philadelphia, 1859, died from angina pectoris after an illness of five days, at his residence in Meridian, Miss., April 5, aged 66.

Columbus C. Wright, M.D., Ohio Medical University, Columbus, 1897, died April 6, at his home in Columbus, from pulmonary tuberculosis, after a long illness, aged 24.

Charles H. Dana, M.D., Jefferson Medical College, Philadelphia, 1851, of Tunkhannock, Pa., died after a long invalidism from paralysis, at Bartow, Fla., March 25.

Wilson A. Smith, M.D., University of Cincinnati, Ohio, 1888, died at his home, in Middlebourne, W. Va., March 23, from consumption, after a long illness.

T. S. Stewart, M.D., retired, one of the oldest and most esteemed citizens of Marietta, Ga., died at that place, April 4, after a short illness, aged 84.

W. B. Harlan, M.D., University of Louisville, 1853, died at his home near Danville, Ky., April 6, after an illness of several months, aged 72.

Louis T. Dawson, M.D., University of Tennessee, Nashville, 1886, died at his home in Cub Run, Ky., March 29, from typhoid fever, aged 36.

George Perry Jones, M.D., University of Maryland, Baltimore, 1865, died from apoplexy at his home in East Newmarket, Md., April 2, aged 55.

Albert E. Kelley, M.D., New York University, 1891, a practitioner of South Butler, N. Y., died at Newark, N. Y., April 2, after a short illness.

Vincenzo Centaro, M.D., University of Naples, Italy, 1880, who had practiced medicine in Chicago for about eight years, died April 15, from congestion of the brain.

Henry H. De Beck, M.D., University of Vermont, Burlington, 1881, died after a long illness at his home in Winn, Maine, March 23.

Colon C. Watson, M.D., Rush Medical College, 1878, died at his home in Crystal Lake, Ill., March 20, aged 45.

William P. Smith, M.D., Rush Medical College, Chicago, died April 5, after an illness of five years, aged 50.

Miscellany.

Report of Special Commission on the Plague in San Francisco.

No.	Name.	Age, Sex and Color.	Place of Death.	Date of Death, 1900.
1	Wing Chut King	41, M., Mong.	1001 Dupont	March 6.
2	Chu Gan	22, " "	723 Sacramento	" 15.
3	Ng Ach Ging	37, " "	905 Dupont	" 17.
4	Lee Sun King	47, " "	Oneida Place	" 18.
5	Law An	38, " "	St Louis Alley	April 24.
6	Lim Fa Muey	16, F., "	739 Clay Street	May 11.
7	Chu Sam	38, M., "	717 Jackson	" 11.
8	Chin Moon	16, F., "	730½ Commercial*	" 13.
9	Herr Woon Jock	53, M., "	740 Pacific	" 14.
10	Dang Hong	40, " "	706 Pacific	" 29.
11	Chen Kney Kim	49, " "	819 Clay	June 2.
12	Jay Man Tong	60, " "	759 Clay	" 9.
13	Lee Wing Tong	40, " "	767 Clay*	July 6.
14	William Murphy	34, " White	427 Dupont*	August 11.
15	Ham Tan	29, " Mong.	900 Dupont	" 15.
16	Lea Do Hen	50, " "	710½ Dupont	October 5.
17	Chun Yen	37, " "	767 Clay	" 10.
18	Taik Dong Leong	39, " "	705 Clay	" 14.
19	Young Moon Li Chee	30, F., "	802 Dupont	" 31.
20	Young Wah Noui	9, " "	802 Dupont	November 1.
21	Anne Roede	28, " White	Pacific Hospital*	" 3.
22	Lee Ho	30, M., Mong.	844 Washington	December 7.
23	Chun Wey Lung	60, " "	720 Jackson (1901)	January 6.
24	Leam Wing Low	59, " "	833½ Clay	" 15.
25	Angela Colombo	" White	5 Lafayette Place*	" 15.
	(Following observed by Commission.)			
26	Chun Ah Chou	44, M., Mong.	814 Washington	February 5.
27	Lum Hong Yuen	37, " "	28 Ross Alley	" 6.
28	Wong Chi Lin	50, " "	15½ Waverly	" 7.
29	Tom Shom	51, " "	814 Washington	" 10.
30	Ng Ah Back	45, " "	St Louis Alley	" 11.
31	Foong Ah Feng	12, F., "	747 Sacramento St	" 12.

To SURGEON-GENERAL WYMAN, MARINE-HOSPITAL BUREAU,

Department of the Treasury, Washington, D. C.

Sir:—The special Commission appointed by the Honorable, the Secretary of the Treasury, for the purpose of ascertaining the existence or non-existence of bubonic plague in San Francisco, or other ports or places in the state of California under instructions furnished by the Surgeon-General of the United States Marine-Hospital Service begs leave to submit the following report:

In accordance with instructions received, the members of the Commission proceeded as early as possible to San Francisco, one of them (Dr. Barker) arriving on Friday, Jan. 25, 1901, the other two (Dr. Flexner and Dr. Novy) on Sunday, January 27.

The first formal meeting of the Commission was held at the Occidental Hotel shortly after the arrival of all the members. At this meeting it was decided, in accordance with your instructions, to call and pay our respects to the Honorable, the Governor of the state, to place ourselves in communication with the local authorities in order to obtain facilities for the examination of the sick and dead in Chinatown, or elsewhere should suspected cases arise, and to arrange for a laboratory in which pathological and bacteriological examinations could be undertaken.

Owing to the miscarriage of a letter sent to the Commission by the Honorable, the Governor of the State, the call of your Commissioners upon him was delayed until Saturday, February 16. On this date, however, they had the privilege of paying their respects to the Governor and of informing him of their orders. The Governor received your Commissioners most courteously and stated that the authorities in California desired to facilitate by every means in their power the investigation concerned.

A call was also made upon the mayor of the city of San Francisco and upon the President of the City Board of Health, both of whom offered to aid in any way possible to them the work of your Commissioners. The City Board of Health supplied the Commission with a map of Chinatown, on which were charted the location of cases which the Board had examined and regarded as plague.

During the first fifteen days of our visit, a bureau was opened in the Occidental Hotel; the Commission met at 11 o'clock daily, and it was announced in the press that its members would be glad to confer with any one who had information to give with regard to the existence or non-existence of plague in the city. In addition, letters were sent to a number of physicians in town requesting an interview. The majority of those written to responded; opinions were divided, some of the physicians being confident that plague existed, others being sure that the disease was not here. The establishment of this bureau proved to be of great service, not so much in affording us information about plague, as in putting us into relation with the medical and business interests of the city. Through it, a plan of work became easy to formulate; through it we learned how to gain access to the sick and dead Chinese and how to proceed without exciting the opposition or suspicion of those among whom we were to work.

The representatives of the principal commercial interests of the city of San Francisco, including the Merchants Association, the Manufacturers and Producers Association, the Board of Trade, the Pacific Coast Jobbers and Manufacturers Association, the Chamber of Commerce, the Pacific Mail Steamship Company, and the Southern Pacific Railway called upon the Commission, welcomed them to California and offered their aid. Through the courtesy of Colonel Mendel, Room 161 of the City Hall, previously used as a license office, was put at the disposal of the Commission. It was fitted out as a laboratory, the outfit being purchased new in San Francisco.

INSPECTIONS OF THE CHINESE SICK AND DEAD.

The attorney of the Chinese Consolidated Benevolent Associations (ordinarily known as the Chinese Six Companies) advised the Chinese to co-operate with the Commission. As a result, proclamations were issued ordering the Chinese to report all cases of sickness and death, no matter what the cause, to the offices of the Chinese Six Companies in order that daily inspections might be made. Mr. Wong Chong, the secretary of the Six Companies, accompanied a member of the Commission (Barker) daily to each house whence a report had been made, aided in finding the cases, acted as interpreter, and assisted in obtaining the necessary histories. It is believed by the members of the Commission that the Chinese Six Companies acted in good faith and that they made every attempt to give access to the sick. Certain cases of sickness, it is true, were not reported and were not known of until the dead bodies were found, but this, it is believed, was due to negligence on the part of the Chinese concerned rather than to any attempt at concealment.

The daily inspections of the sick and dead permitted of observations relative to the mode of life of the people in the fourteen blocks of San Francisco which makes up "Chinatown." These observations were extended by special trips of inspection under the guidance of officers of the city detective force and by numerous independent trips of inspection made by your Commissioners.

The dwellings of the poorer classes of Chinese were found to be here, as they seem to be everywhere, shockingly unsanitary. In places there is marked overcrowding; the rooms are small, they are often entirely devoid of light or means of ventilation, and nearly always insufficiently lighted and ventilated; many of them are filthy; some of them, especially those situated in basements, are damp and emit a foul stench. These faults in sanitation are not confined to the tenement houses of the Chinese; on the contrary, in the rear of, or over or under some of the more pretentious business buildings are to be found sleeping and living apartments which are most objectionable from a sanitary point of view.

The Chinese in San Francisco are, however, in many respects much better off than are their countrymen in great native centers like Canton or even than those in a city like Hongkong. There is almost an entire absence of the utter destitution met with among so many of the Chinese in Asia; the Chinese in San Francisco are, on the whole, very well fed, for wages are high and food is abundant and cheap. They are also well clothed as a rule and particular emphasis is to be laid upon the fact that the Chinese here wear shoes, stockings and trousers, since it is believed by many that the bare legs and feet of the Chinese in Hongkong and Canton had much to do with the frequency of infection with plague in those places.

A large percetage of the Chinese in San Francisco, it is said, smoke opium. There are a number of Chinese proctitutes, but inspection of the quarters occupied by the latter would indicate that the rooms in which they live are on the whole more wholesome as regads air space, light, ventilation and cleanliness than those of the other inhabitants of the district.

On Wednesday, Feb. 6, 1901, systematic daily rounds of visits were made by one of the Commissioners in company with Mr. Wong Chung to the rooms of the sick as reported each day to the offices of the Chinese Six Companies. Rapid clinical examinations were made and notes kept of the results.

* Particular places of death of following numbers was as follows: No. 8, Pacific Hospital, Stockton and Chestnut Streets; No. 13, City and County Hospital; No. 14, City and County Hospital; No. 21, Children's Hospital, 3700 California Street. No. 25, City and County Hospital.

A number of the cases met with were obviously instances of advanced tuberculosis; others were affected with various chronic diseases, such cases being of no interest for the investigation was made only once. When patients were found who presented symptoms which were suggestive of plague a careful examination was made; in doubtful cases, the first visit was followed by others and the progress of the illness carefully watched. These regular visits of daily inspection were maintained until Feb. 16, 1901, during which period a sufficient number of instances had been observed to permit your Commissioners to conclude beyond possible doubt that cases of bubonic plague were occurring among the Chinese.

Inspections of the dead in Chinatown were made also daily by the same member of the Commission, beginning Feb. 5, 1901. Access to the dead was gained in two ways. In the first place the assistant city physician, Dr. F. P. Wilson, makes the rounds of the undertaking establishments in Chinatown each forenoon. He inspects the bodies of the dead and where necessary advises a pathological and bacteriological examination by Dr. Kellogg, the bacteriologist of the City Board of Health. Permission was obtained from these gentlemen for the making of simultaneous and independent inspections and of pathological and bacteriological examinations by the Commission.

A second mode of access to the dead was that afforded by the reports made by the Chinese directly to the offices of the Six Companies. By this mode, it was in some instances possible to learn of the death of individuals and to make inspections of bodies before the city officials were informed of them.

(To be continued.)

Societies.

COMING MEETINGS.

Medical and Chirurgical Faculty of Maryland, Baltimore, April 23-26, 1901.
Texas State Medical Association, Galveston, April 23, 1901.
American Association of Genito-Urinary Surgeons, Old Point Comfort, April 30, 1901.
Association of American Physicians, Washington, D. C., April 30, 1901.
American Gastro-Enterological Association, Washington, D. C., May 1, 1901.
Kansas Medical Society, Pittsburg, May 1-3, 1901.
American Surgical Association, Baltimore, Md., May 7-9, 1901.
American Therapeutic Society, Washington, D. C., May 7-9, 1901.
Nebraska State Medical Society, Lincoln, May 7-9, 1901.
Oklahoma Territory Medical Association, Oklahoma City, May 8, 1901.
Mississippi State Medical Association, Jackson, May 8, 1901.
Washington State Medical Society, Seattle, May 8-9, 1901.
Ohio State Medical Society, Cincinnati, May 8-10, 1901.
Arkansas Medical Society, Hot Springs, May 14-16, 1901.
Medical Association of Montana, Great Falls, May 15-16, 1901.
Michigan State Medical Society, Battle Creek, May 15-16, 1901.
Iowa State Medical Society, Davenport, May 15, 1901.
Indiana State Medical Society, South Bend, May 15-17, 1901.
New Hampshire Medical Society, Concord, May 16-17, 1901.
Medical Association of Missouri, Jefferson City, May 21-23, 1901.
Illinois State Medical Society, Peoria, May 21-23, 1901.
Medical Society of North Carolina, Durham, May 21-23, 1901.
Connecticut Medical Society, Hartford, May 22-23, 1901.
Kentucky State Medical Society, Louisville, May 22-24, 1901.
Medical Society of West Virginia, Grafton, May 22-24, 1901.
American Laryngological, Rhinological and Otological Society, New York City, May 23-25, 1901.
American Pediatric Society, Niagara Falls, N. Y., May 28, 1901.
American Gynecological Association, Chicago, May 28, 1901.
American Climatological Association, Niagara Falls, N. Y., May 30, 1901.

German Dermatological Congress.—This Congress will meet in Breslau, May 28-30.

Gloucester (Mass.) Medical Club.—At the annual meeting of this Club, April 4, Dr. Edward S. Eveleth was elected president and Dr. Percy C. Procter, secretary and treasurer.

Pennsylvania Society for the Prevention of Tuberculosis.—At the annual meeting of this Society, held on April 10, in Philadelphia, Dr. Guy Hinsdale was elected president, and Dr. Alex. Heron Davisson, secretary.

Paducah (Ky.) Medical and Surgical Society.—This Society held its meeting for the annual election of officers, April 3, and elected Dr. Charles H. Brothers, president; Dr. Delia Caldwell, secretary, and Dr. Horace T. Rivers, treasurer.

Everett (Mass.) Medical Society.—The annual meeting of this Society was held March 27, and Dr. E. Cazneau Newton elected president; Dr. George E. Whitehill, vice president, and Dr. Belle D. Curtis, secretary and treasurer.

San Diego County (Cal.) Medical Society.—At the annual meeting of this Society, April 5, Dr. George Cleary was elected president; Dr. Eugene St. Clair Beadles, vice-president, and Dr. Thomas L. Magee, secretary and treasurer.

Upper Des Moines Medical Association.—At the semi-annual meeting of this Association, at Estherville, March 28, Dr. Edmund D. Putnam, Lake Park, was elected secretary, vice Dr. Charles S. Shultz, of the same place, resigned.

American Climatological Association.—The eighteenth annual meeting of this Association will be held in Niagara Falls, N. Y., May 30, 31 and June 1, under the presidency of Dr. Robert H. Babcock, Chicago.

Louisiana State Medical Society.—The twenty-Second annual meeting of this Society will be held at the medical department of Tulane University, New Orleans, April 18 to 20, president Frederick W. Parham in the chair.

Medical Society of the State of West Virginia.—The thirty-fourth annual meeting of this Society will be held in Grafton, May 22 to 24. Dr. G. A. Aschman, Wheeling, secretary, requests that titles of papers be send to him before April 30.

Nashville (Tenn.) Academy of Medicine.—The annual meeting of the Academy took place April 2, and the following officers were elected: Dr. William D. Haggard, president; Dr. Carl C. Warden, vice president, and Dr. Deering J. Roberts, secretary.

Kansas Medical Society.—The thirty-fifth annual meeting of this Society will be held at Pittsburg, May 1 to 3, under the presidency of Dr. J. W. Porter, of that city. The physicians of the city will tender a banquet to the Society, May 3, at the close of the evening session.

Clinton County (Iowa) Medical Society.—At the quarterly meeting of this Society, held at Clinton, April 2, delegates were appointed to the state medical society, and Dr. F. A. Hohenschuh, Clinton, was elected secretary to succeed Dr. David T. Nicoll, removed to Clarence.

West Tennessee Medical and Surgical Association.—This association will hold its tenth annual session at Jackson, Tenn., May 2 and 3, instead of the usual time, the last of May. The change is made on account of the nearness of the time of the meeting of the AMERICAN MEDICAL ASSOCIATION.

Whatcom County (Wash.) Medical Association.—The physicians of the county met at Whatcom, March 30, and organized this association, with the following officers: Dr. Hays A. Compton, Fairhaven, president; Dr. Euclid Vanzandt, New Whatcom, vice-president, and Dr. Joseph F. Cross, New Whatcom, treasurer.

McLean County (Ill.) Medical Society.—At the annual meeting of this Society, at Bloomington, April 4, the following officers were re-elected. Dr. Charles E. Chapin, Bloomington, president; Dr. William R. Shinn, Chenoa, vice-president; Dr. Franklin C. Vandervort, Bloomington, secretary, and Dr. Ernest Reedy, treasurer.

International Association of Railway Surgeons of the United States, Canada and Mexico.—The executive board of this Association has decided that the next annual convention shall be held in Milwaukee, Wis., June 10 to 12. The local committee of arrangements consists of Drs. Harry A. Sifton, Solon Marks and William Mackie.

Cuyahoga County (Ohio) Medical Society.—The annual meeting of this Society occurred at Cleveland, April 4. The election of officers resulted in the choice of Dr. Carl A. Hamann, president; Drs. Charles C. Stuart and Leroy S. Chadwick, vice-presidents; Dr. Frederick C. Herrick, secretary, and Dr. Charles G. Foote, treasurer, all of Cleveland.

Canadian Medical Association.—The annual meeting of the Canadian Medical Association will be held in Winnipeg, Manitoba, August 28-31, under the presidency of Dr. Henry H. Chown, of that city. Special arrangements have been secured from the Canadian Pacific Railway for trips there and to other parts of the northwest as well as to the Pacific Coast.

Howard County (Ind.) Medical Society.—This Society, at its annual meeting, held in Kokomo, April 4, elected Dr. S. Roscoe Chancellor, Kokomo, president; Dr. Daniel C. Peters, Greentown, vice-president; Dr. William Harrison, Kokomo, secretary, and Dr. J. McLeon Moulder, Kokomo, treasurer. Delegates to the state society and the AMERICAN MEDICAL ASSOCIATION were also elected.

Medical Society of the State of North Carolina.—The annual meeting of this Society will be held in Durham, May

21 to 23, under the presidency of Dr. Julian M. Baker, Tarboro. Dr. Earle Grady, Tryon, will deliver the oration, and Dr. Robert S. Primrose, Newbern, the essay. The annual discussion will be led by Dr. David A. Stanton, High Point. Dr. Albert G. Carr, Durham, is chairman of the committee of arrangements.

Southern Idaho Medical Association.—The quarterly meeting of this body was held in Boise, April 4. The retiring president, Dr. Robert L. Nourse, Hailey, addressed the Society on "How Can We Best Secure the Enforcement of the Medical Laws of Idaho?" Dr. Lucien P. McCalla, Boise, was elected president; Dr. Ed. E. Maxey, Caldwell, vice-president, and Dr. Hubert A. Castle, Pocatello, secretary.

Tennessee State Medical Society.—At the sixty-eighth annual meeting of this Society, at Nashville, April 10, the following officers were elected: Dr. Deering J. Roberts, Nashville, president; Drs. James B. Murfree, Jr., Murfreesboro, L. A. Yarbrough, Covington, and William B. St. John, Bristol, vice-presidents; Dr. A. Bennett Cooke, Nashville, secretary, and Dr. William C. Bilbro, Murfreesboro, treasurer. Memphis was selected as the next place of meeting.

Medical Association of the District of Columbia.—The annual meeting of this Association was held in Washington, April 2. The following officers were elected: Dr. H. L. E. Johnson, president; Drs. George C. Ober and William H. Fox, vice-presidents; Dr. Monte Griffith, secretary, and Dr. Frank Leech, treasurer, all of Washington. Delegates were also elected to the AMERICAN MEDICAL ASSOCIATION, and Dr. G. Wythe Cooke was designated to confer with the ASSOCIATION on state organization.

Hornellsville (N. Y.) Medical and Surgical Association.—The annual meeting and dinner of this Association occurred at the Steuben Sanatorium, April 1. Dr. Charles O. Green was elected president; Dr. Charles M. Brasted, vice-president, and Dr. Ray G. Lawrence, secretary and treasurer. After the president's address, Dr. William S. Ely, Rochester, read a paper entitled "Some of the Certainties and Uncertainties in Medicine," and Dr. Floyd S. Crego, Buffalo, discussed "Some of the Improvements in Medicine and Their Relation to Nervous Diseases."

New London County (Conn.) Medical Society.—The one hundred and tenth annual meeting of this Society was held at Norwich, April 4. The Society adopted a resolution that it supports and urges the passage, with such modifications as may seem best, of the bill known as "An act to establish a state hospital in some suitable location for the treatment of incipient pulmonary tuberculosis and making an appropriation therefor. It also elected delegates to the AMERICAN MEDICAL ASSOCIATION and the following officers: Dr. Charles B. Graves, New London, president; Dr. Newton P. Smith, Norwich, vice-president, and Dr. Carlisle F. Farrin, New London, clerk.

Colorado Medical Library Association.—The eighth annual meeting of this Society was held at Denver, March 20. The secretary, Dr. Carroll E. Edson, reported that 770 volumes had been added to the library, and that donations had been received from the Denver and Arapahoe Medical Society, of $150; and from Dr. John Boice, of 200 bound volumes of periodicals. The president, Dr. Henry Sewall, spoke on the needs of the library. Dr. Leonard Freeman was appointed to consult with the authorities of the County Hospital regarding some arrangements whereby the resources of the Hospital for medical literature might be made available for the Association, and whether a fee on attendance on clinics could be collected from medical students, said fee to be applied to the purchase of medical journals. The election of officers resulted as follows: Dr. Charles D. Spivak, president; Dr. Edward Jackson, secretary and treasurer, and C. R. Dudley, librarian.

Association of American Medical Colleges.—The next regular meeting of this Association will be held at the Hotel Ryan, St. Paul, Minn., June 3, under the presidency of Dr. Albert R. Baker, Cleveland, Ohio. It will consist of an educational and a business session. The educational session will be opened at 2 p. m., by the president's address, followed by several papers of medical pedagogic interest. To this session all persons interested in medical education are invited. The representatives and associates of the Association of Southern Medical Colleges have received a special invitation. The members of the Confederation of State Examining and Licensing Boards are also invited. There will also be an exhibition of work done in medical colleges. At 8 p. m., the business session will be held and the amendments to the Constitution, proposed by several colleges, considered. The report of the judicial council, the election of members and the election of officers for the succeeding year will close the program.

CINCINNATI ACADEMY OF MEDICINE.

Meeting held March 25.

President Dr. N. P. Dandridge in the chair.

A Case of Cerebral Abscess.

DR. E. W. MITCHELL reported that on January 27 he was called to see a well-developed and well-nourished boy of 13, who, three years ago, had suffered from a fracture of the right frontal bone which had been trephined and from which he had made an uneventful recovery. He had had no headaches since, was intelligent, and there could be said to have been no brain or mental symptoms up to the time of this last sickness. For two or three days previous to the time Dr. Mitchell saw him, he had complained of a cold, but this did not prevent him from taking part in the games and exercises of his friends. On the morning of the 27th, he complained of headache and pain at the root of the nose. He gradually grew worse during the day, developing fever and soreness of the throat. Dr. Mitchell saw him at 10 p. m., and found him unconscious, temperature 103, pulse 96, full and strong, respirations 30, pupils slightly contracted but reacting normally to light, heart normal, lungs normal except for some coarse mucous râles, pharynx congested and tonsils swollen; his bowels had moved twice during the day and he had vomited several times. He could be aroused slightly, responding to questions only in monosyllables, and again relapsing into stupor. The next morning he responded somewhat more readily to direct questions; temperature was 101, pulse 92; he had had a spasm at midnight and another at 5 a. m., the convulsions being general but most marked on the right side. After the second convulsion he had roused up sufficiently to answer questions. Kernig's sign was not satisfactorily obtained on account of voluntary resistance. He had no convulsions during that day, but remained in a slight stupor; toward evening a slight squint of the left eye was noted. On the morning of the third day slight opisthotonos was first noted; temperature 101, pulse 100; he had tossed restlessly in bed all night, but had no convulsions; some twitching of the right hand, arm and hand and great hyperesthesia were present; he did not answer questions, took nourishment well, and there was no vomiting. Kernig's sign was *present*. A positive diagnosis of meningitis was now made, but before operation could be performed, he was seized suddenly with a convulsion and died.

Autopsy.—This showed a depressed scar on the right frontal bone, corresponding to a depression on the inner table, quite healthy in appearance. The inner surface of bone was so smooth and so nearly normal in appearance that only by close inspection could the site of the trephining be discovered. By holding the bone between the eye and the light the outlines of the button could be nicely seen. From the lower margin of the button a very fine line extended downward for about three-fourths of an inch, probably indicating the line of the old fracture. The dura was normal except for greatly distended blood-vessels. The pia over the right frontal and anterior half of the parietal lobe was covered by a layer of greenish-yellow lymph. In the superior frontal lobe was an abscess about as large as a navy bean and about an inch below the surface. The tissues between the abscess and the surface were softened and broken down. The central abscess cavity had the appearance of having a lining membrane. It would seem probable that at the time of the injury a small abscess had formed here, had become encysted, and had for three years produced no symptoms. Finally exposure and exertion had broken the limiting membrane, causing infection of the surrounding brain tissue and perforation to the surface where the fatal meningitis was excited.

Scarlatina with Meningeal Symptoms.

DR. W. D. HAINES reported this case. A child, 2 years old, well developed and well nourished, had had an attack of pneumonia complicated with acute purulent otitis media, in March, 1900, and a slight purulent discharge from the right ear had continued up to the present time. The child was taken sick about 11 a. m. January 27, with vomiting. He saw her first about 2 p. m., and found her face flushed, breathing hurried

and of a peculiar intermitting type, pulse rapid, temperature 103, fauces injected, the tongue red and dry and a glandular enlargement of the neck. She was continually putting her fingers in her right ear. The fever remained in the vicinity of 103 or 104 for the next four days, but no rash appeared. She slept and ate fairly well. At about this time a few deeply injected macules about the size of a millet seed dotted the skin covering the anterior aspect of the knee-joint. The urine was loaded with albumin and phosphates and grave uremic symptoms began to make their appearance (third day). On the morning of the fifth day a faint rash appeared. The duration of the rash was one day and followed by extensive desquamation, considering the very slight manifestation of the rash. With the desquamation the temperature began to subside, then started to rise rapidly in the next twenty-four hours, reaching 106. This was undoubtedly due to an acute follicular tonsillitis. Respirations now increased to 40 a minute and the pulse to 160. On the seventh day ptosis of the right eye appeared, with contraction of the pupil; on the left side was noted a divergent squint. There was slight tendency to opisthotonos. Large rose-colored spots appeared on the skin covering the face, hands, neck and anterior surface of the body, especially marked and persistent on the skin of the neck. Slight pressure on the skin at any point caused a hyperemic blush which remained several minutes. The child was restless, crying much of the time, sleeping but little and taking but small quantities of nourishment; the urine, however, became more abundant and less albuminous. For a week the hyperemic patches continued to fade and to reappear. The discharge from the ear, which had ceased with the onset of the attack, reappeared, and *immediate improvement was manifested*: the paralysis began clearing, the temperature fell, respiration and pulse approached the normal, the urine cleared, and all that now remains are the stains of the maculopapular eruption.

Mastoid Disease with Unusual Symptoms.

DR. J. A. THOMPSON reported the case of a girl of 13 who had been in failing health for a number of days. For several weeks she had been under the care of her physician, during which time there had been slight fever, and the case was regarded as one of atypical typhoid. The only localizing symptom during that time was an earache increasing in intensity, with the pain much worse at night. The pain was in the mastoid process. A slight chronic eczema behind the ear made it difficult to say when redness and swelling due to mastoid inflammation first appeared. On November 21, 1900, he had been called and found marked swelling and tenderness over the mastoid and pain radiating over the whole temporal and parietal region. There was no evidence of any disease in the tympanic cavity. The drum was not even reddened. On November 26 there was pus in the attic and a paracentesis was made, evacuating a small amount. The paracentesis wound healed rapidly and the discharge from the middle ear ceased in a few days. There was at this time a decrease in the pain and fever. A few days later there was a spontaneous perforation of the drum in the posterior inferior quadrant, following but a few hours of pain; this was followed by a very profuse purulent discharge. The swelling and tenderness over the mastoid promptly subsided, and on December 114 she was able to come to the office for treatment. The perforation closed once but opened after about twenty-four hours. On December 20 her symptoms became rapidly worse, especially the pain, swelling and tenderness over the mastoid. On December 28 the mastoid was opened and found filled with pus, granulation tissue and polypi. This was entirely removed and the opening continued until the mastoid antrum was opened, thus securing good drainage from the middle ear. On removing the dressings (fourth day) the drum was found to have healed. The patient was discharged from the hospital at the end of two weeks, and healing was complete on the forty-eighth day. Hearing distance for the watch in diseased ear is 12/24. The uncommon features were grave disease in the mastoid cells weeks before the tympanic cavity was involved, improvement in the general and local symptoms while extensive destruction of the bone was in progress, and death of the bone wholly out of proportion to the general or local symptoms, with a rapid healing of the wound without any of the complications and delays that usually attend extensive operations on necrotic bone.

Alopecia Areata and Nasal Epithelioma.

DR. M. L. HEIDINGSFELD presented two dermatologic cases, one of alopecia areata in a young boy, the other a case of epithelioma of the nose in a man about 60 years of age, which had been apparently cured by local applications of arsenious acid in the form of a paste. The diagnosis of this case had been confirmed by microscopic examination.

Strangulated Umbilical Hernia; Operation; Recovery.

DR. A. W. JOHNSTONE reported the case of a large fleshy woman, 64 years of age, with hernia apparently strangulated one day before operation was instituted. The omentum and intestines were found gangrenous. All the gangrenous portions were removed and the fresh ends approximated by means of the Murphy button. Recovery was uneventful. He reported the case on account of the long time elapsing before the passing of the button; it had been inserted on Dec. 27, 1900, and was passed March 11.

Fibroid of the Uterus.

DR. J. A. JOHNSTON reported on Miss F., aged 42, who had pelvic trouble for two years. Examination revealed a tumor filling the pelvis, and the uterus could be outlined above the symphysis pubis on the anterior superior surface of the growth; the cervix uteri was posterior and against the symphysis pubis. On Feb. 13, 1901, the abdomen was opened and the uterus and growth found as above detailed. It was impossible to lift the growth out of the pelvis, or indeed move it until it had been completely cut away from its attachments—the cervix was left. The symptoms of this case, the essayist said, were not severe, and therefore it did not demand immediate operation on that account alone; but the form, position, and relation of the growth to the uterus, ureters, rectum, and bladder did not augur well for the future. The mass was 4 inches in the anteroposterior diameter, 4½ in the transverse, and 5½ long; the diameters of the pelvis at the superior inlet, conjugate, oblique and transverse, being respectively 4¼, 5 and 5½ inches, would not allow much more room for the fibroid to expand. There was the ever-present danger of pressure upon the ureters and attendant damage to the kidneys. Furthermore, a few months' additional growth might have wedged it so tightly in the pelvis as to greatly increase the risk of operation.

Acute Osteomyelitis of the Hip.

DR. A. H. FREIBERG reported on a male, aged 22, of good family history and splendid physique, who was taken ill suddenly, about two months before first seen by the essayist. The onset of the disease was very sudden, with severe chill and great pain in the left groin and hip, high fever and great prostration. This was soon followed by marked swelling and pronounced sepsis. The nature of the disease being recognized, a long incision was made over the upper posterior third of the thigh, and a great quantity of pus was evacuated, followed in a short time by spontaneous dislocation of the hip. About one week after this the essayist was asked to see the patient. He was found extremely septic and debilitated, with fever and a pulse of 118. There was typical dislocation onto the dorsum ilii, the left foot being supported on the right. The whole limb was swollen and the knee somewhat painful to pressure. Attempt at reduction under chloroform anesthesia failed, the patient taking the anesthetic badly, so provision was hastily made for more free drainage. The limb had been shifted to a better position by the manipulation, the foot now looking directly forward. An extension was applied but had to be removed on account of an effusion into the right knee. This subsided gradually and the patient began slowly to improve. Denuded bone could, however, be felt on probing the sinus at the posterior aspect of the hip. About two months later the hip was opened by the Langenbeck incision and the head of the femur removed, the patient then making an uneventful recovery. Examination of the bone showed superficial destruction of the bone at the uppermost part of the neck. At the juncture of the head and neck the cartilage had been lifted off by the

suppurative process. The ligamentum teres had been destroyed. Small lamellar sequestra were found free in the joint.

Typhoid Fever; Pregnancy; Miscarriage at Seven and a Half Months; Typhoid in the Infant; Death; Autopsy.

DR. MARK A. BROWN reported this case in a woman of 19, well developed and well nourished, who first came under observation on Nov. 23, 1899. Her principal complaints were fever and headache. She stated that as near as she could remember her illness began on November 14, with headache, pains in various parts of the body, loss of appetite and general weakness. Previous to her illness she had nursed her sister, who had passed through a six weeks' course of typhoid. She had menstruated last on April 8, 1899. Examination of the heart and lungs was negative. The abdomen showed a pregnancy at about the seventh month, and the spleen was enlarged to percussion. Examination of the urine was entirely negative—diazo reaction not made. Temperature was 103.2, pulse 92, respirations 20. The Widal reaction was obtained in twenty minutes. On the next day she was delivered of a small female child. Her average temperature on that date was 103. November 27, the Widal reaction was obtained in ten minutes, on December 1 in ten, and on December 8 convalescence seemed to be established, but the Widal reaction was complete when the slide was placed under the microscope. The temperature now began to ascend and, on December 25, there was a note that she had passed through a typical relapse of typhoid, with spots and enlarged spleen. She was discharged on January 25, well.

Infant.—Its temperature was 101 when born, and rose steadily until above 103, remaining in this neighborhood about two weeks, then falling gradually to the normal in the same step-ladder manner that is so frequently seen in the adult. Two days after the normal temperature had been reached, the child, who had been getting weaker and weaker with each succeeding day, died, apparently of inanition. On December 2, the ninth day of its birth, the Widal reaction was made on the infant's blood, and partial reaction secured in thirty minutes, complete in forty-five. The serum reaction was made every two or three days on the baby's blood, and always with a positive result and in almost every case under the time limit. The note on December 9 states: "Widal made on blood obtained from the child gave complete clumping and agglutination in *ten minutes.*" The child did not seem to be especially discommoded by its illness, taking nourishment—not the breast, no attempt of course being made at that—very willingly. No spots developed: the spleen was palpable, the stools slightly yellowish and loose. There was no tympanites nor did the child appear to be in any particular pain at any time.

Autopsy.—The heart and lungs were normal. The spleen was considerably enlarged and very soft. Enlarged mesenteric glands were also found. Involving a large part of the ileum, particularly at the lower part, were found healed ulcers, presenting the "shaven-beard appearance" so common in adults. Indeed, the whole condition differed in no way from a typhoid of an adult in a similar stage of the disease, while the course of the disease seemed to bear out the statement that typhoid in the young runs a very mild course. I believe that if this had been a full-time child it would have survived; for a time it looked as if it were going to live in spite of the obstacles that were thrown in its way.

Osteomyelitis of Vertebrae.

DR. CHARLES E. CALDWELL reported a case of osteomyelitis of the vertebræ, with interesting pressure symptoms. He had made a laminectomy but without any marked improvement. On autopsy a small abscess cavity was found within half an inch of his incision. The specimen was presented.

Tumor of the Sclera.

DR. JOHN W. MURPHY presented a young negro girl, with a small tumor distinctly under the conjunctivæ and apparently in connection with the sclera, situated midway between the sclerocorneal junction and the inner canthus of the left eye. Ophthalmoscopic examination was entirely negative. He was unable to state the exact nature of the growth.

JOHNS HOPKINS HOSPITAL MEDICAL SOCIETY.

Meeting held April 1.

Dr. Wm. H. Welch, President, in the chair.

Hemorrhage in Operation for Chronic Jaundice.

DR. WILLIAM OSLER related several cases in which operation was performed for the removal of gall-stones producing jaundice in which severe and even fatal hemorrhage had followed. There is usually a retardation of coagulation time of blood, this requiring fourteen or fifteen minutes instead of about 3½, the normal time. The calcium chlorid lessens the coagulation time which may fall to normal. Subcutaneous injections of gelatin have the same effect. In two cases, however, the coagulation time was normal; there was severe hemorrhage.

Typhoid Spine.

DR. OSLER also exhibited a robust, healthy looking man, with a good color, who had been admitted November 6, on the twelfth day of an attack of typhoid fever, and had been discharged January 12, his illness having lasted fifty-seven days. He has recently returned, complaining of great stiffness in the back, extreme pain in attempting to sit up, tenderness in the sacrolumbar region, and a markedly nervous state. His general condition is good, there is no swelling, no signs of spondylitis, no change in reflexes, no paralysis. All the patients get well. The markedly hysterical features lead to the belief that in the great majority it is a pure neurosis. This man had had the Paquelin applied every two days, and wet packs.

Intestinal Dystrypsia: Classification and Pathogenesis.

DR. J. C. HEMMETER proposes this name as a substitute for intestinal dyspepsia, trypsin being the most important enzyme in intestinal digestion. For these cases, which are due to disturbances in the function of the liver or biliary apparatus, he suggests the term "hepatic dystrypsia," and for pancreatic disturbances, "pancreatic dystrypsia." The functions of the intestine are secretion, absorption and peristalsis. Many dystrypsias affect two, sometimes three, of these. Dr. H. suggests the following classification of dystrypsias: 1, those due to pathologic-anatomic alterations; 2, absence or deficiency of the intestinal digestive secretions; 3, those due to qualitative or quantitative irregularities in the diet; 4, those due to abnormal bacterial activity; 5, those due to abnormal gastric chemistry; 6, those of nervous origin; 7, those caused by abnormal substances or irritants reaching the intestine from the blood; 8, those due to the action of intestinal parasites (exclusive of bacteria), worms; 9, those due to hyperperistalsis.

Gastric dyspepsia occurring in a dilated or prolapsed stomach is frequently mistaken for intestinal indigestion.

Is there any way in which we can study the alterations of the intestinal secretions? There are but two ways in which progress can be hoped for: 1, duodenal test-meal analysis; 2, examination of the stools. The first seems at present to be confronted with insurmountable difficulties, but it is a method to which we are surely coming, for it constitutes the only reliable means for obtaining information regarding the chemic processes of the duodenum. An apparatus was shown designed for the intubation of the duodenum. It consisted of a flexible rubber tube through which a spiral wire is passed in order to prevent kinking. The second method requires careful quantitative analysis of the stools, after weighed amounts of proteids, carbohydrates and fats have been ingested, not only for the purpose of determining the residual undigested amount of each of these substances, but also for determining the amount of proteolytic, amylolytic, and eventually also of adipolytic ferments present in the feces. To accomplish this Dr. H. exhibited his stool sieve, designed to be attached to the tap so as to allow water to flow through the contents, removing offensive material, but retaining in the sediment everything essential for examination. This obviates one of the greatest drawbacks to such analyses.

With reference to the agency of bacteria in digestion, Dr. H. says the evidence so far obtained suggests that the presence of micro-organisms is essential to the most perfect functioning of the digestive process in the gastro-intestinal canal. In the treatment, however, of that dystrypsia due to bacterial activity, he does not place too much dependence on

the so-called intestinal antiseptics. He gets along without them in the great majority of cases, and has seen very evil results follow the use of irritative antiseptics. He gives the utmost care to the diet, that it be easily digestible, thoroughly sterilized and moderate in quantity. Next to diet, the most effective means for combatting bacterial activity and autointoxication is lavage of the stomach and colon. Generally nothing is needed, but sterile water. If there is no HCl in the stomach, it is administered.

DR. WM. OSLER prefers the term "intestinal indigestion" to "dystrypsia," and with reference to the agency of bacteria in causing intestinal indigestion pointed out that this latter condition is not found in typhoid fever, although bacteria are abundant.

Fetal Transmission of Typhoid.

DR. FRANK W. LYNCH reported two cases of typhoid fever in pregnancy, with interruption of pregnancy in both cases. In the first case, from the four-months' fetus, aborted during the second febrile week, he cultivated the typhoid organism, from the fetal blood and organs. The same organism was also grown from the uterine lochia, but not from the maternal blood. The placenta showed numerous microscopic hemorrhages. Sections from the placenta and fetal organs were negative for bacilli. The Widal with the mother's blood was positive (1 to 50); the child's blood was absolutely negative (1 to 10). In the second case, the child, premature at the thirty-sixth week, was born on the fortieth febrile day. It lived for seventy days, dying finally of inanition. Although it presented an unusual skin eruption at birth, rather strongly suggestive of rose spots, placental transmission could not be proven. Cultures from the blood, taken at autopsy, developed the colon bacillus. The Widal from the child was negative in 1 to 10 dilution on the first, thirty-sixth and seventieth days. The mother's blood gave a Widal positive in dilutions of 1 to 50. Cultures from the placenta were sterile for two days. The placenta was normal, both macroscopically and microscopically. In the 1079 cases of typhoid to January 1, in the Johns Hopkins Hospital, there have been 289 in the female, and but 5 cases of typhoid during pregnancy. This is a percentage of 1.7, which is somewhat smaller than that given by Goltdammer and Martinet. From the literature Dr. Lynch collected sixteen cases of placental transmission of typhoid, and about the same number of cases where such transmission could not be proven. The absence of the Widal reaction, in the case where placental transmission was proven, is a unique observation, as there are no observations as to this point.

CHICAGO NEUROLOGICAL SOCIETY.

Dr. Hugh T. Patrick, president.

Raynaud's Disease.

DR. H. N. MOYER presented a case of this affection, the third he had seen; they all presented marked differences. The patient was 13 years of age, of Norwegian descent, tall, with light complexion, mentally bright, very fond of reading, of an emotional nature and had had several hysterical attacks, and nearly all the ordinary children's diseases. The family history was not specially significant. Her mother was of nervous temperament. She has four brothers living and in good health. It is stated that her grandmother had a finger that used to turn white for a short time. When first seen by Dr. Moyer, Feb. 9, 1901, several fingers were white and painful, but one more so than the others. While under observation, the fingers became red, again turned white and then assumed a bluish tint, changing color constantly. The hands were cold but sensation was not impaired. The patient stated that she first felt numbness and tingling in the left little finger and it turned white, that occurring about five days before she was seen. The heart, lungs, and nervous system, with the exception of the local symptoms in the hands, were quite normal. The girl was seen in consultation with Dr. Zeltner, whose first impression was that the finger had been frozen, but the rapid alterations of color soon showed that this explanation was incorrect. When the finger first turned white, she had no pain, but at the time she came under observation there were distinct painful paroxysms of about one-half hour's duration, which came on three or four times a day. When first seen the fingers of each hand, three in number, were distinctly cyanotic, the little finger of the left hand more than the others.

At present, the middle finger of the left hand and the fourth of the right are most affected. The tips of the fingers are very tender to the touch. In the center of the pulp of the middle finger, the skin appears to be raised and white, with a reddish zone around it, much resembling a small blister. Apparently, gangrene has set in in this finger. There has been no change in the nails and they continue to grow. The patient has been treated with galvanism every day. The hands are immersed in water, connected with a positive pole and the negative is applied at the nape of the neck. Several times a day the patient is instructed to raise the hands for a few minutes. A thick cotton dressing is applied to the hands when she goes out of doors, and she has the additional protection of a muff. The paroxysms of pain were best relieved by a 10 per cent. solution of menthol in alcohol. Chloroform liniment was applied, but with no effect. The patient claims that she gets more relief from applications of very cold water; warm increases the pain. Internally she was given the suprarenal gland, with no effect; later, quinin and strychnin with marked improvement.

Optic Atrophy in a Child.

DR. HUGH T. PATRICK presented a patient with this affection —a boy of 12 years, first seen Sept. 18, 1900, through the kindness of Dr. F. A. Phillips. The father had died insane, probably of general paresis. The first child was 15 years of age and perfectly well; the second pregnancy terminated with a miscarriage at about four months, and the patient was born at full term about two years later. The following child was born three years after the patient and presented some evidence of inherited lues, while the last child was afflicted with various skin diseases until several years old. Soon after the patient's birth he developed snuffles, which continued for several years. The mother stated that he had never been strong on his legs, and walked "as if his shoe hurt him." Otherwise his development was normal with the exception of occasional nocturnal enuresis which still continued, the urine sometimes slowly dribbling away. For the last three years he had been subject to attacks of vomiting which always occurred in the morning and were followed by sleep, after which he seemed perfectly well. During the last year these attacks had begun with a pain in the head, and had been more frequent, and after an attack the scalp would be tender for a day or two. They were apparently migrainous in character. Vision had begun to fail only a few months before, and at the time of examination, as determined by Dr. Phillips, was R 15/200, L 20/200, and there was simply atrophy of both optic nerves. The right pupil was slightly larger than the left; both were somewhat irregular and responded to accommodation, but not to light. Sensation and muscular power were normal, there was very slight incoordination of both upper and lower extremities and slight intention tremor of the hands. The deep reflexes were normal, and there was no ulnar analgesia, but pressure on the ulnar nerve seemed to be rather less painful than normal. The teeth, while not the typical Hutchinson type, were considered to indicate congenital syphilis. Since September, the boy had become totally blind, the other symptoms remaining about the same. On account of the brisk knee-jerks, the diagnosis of precocious tabes would be rather venturesome, but the case was considered to be of that type; that is, to be classed with the late degenerative diseases caused by syphilis, such as tabes and general paresis.

Antrum Infection and Sigmoid Thrombosis.

DR. BAYARD HOLMES presented the clinical history and postmortem specimens of a case of antrum infection and sigmoid thrombosis without present middle-ear disease, presenting the symptoms of facial neuralgia and none of the ordinary symptoms of disease in the petrosa; retropharyngeal gravity abscess, general sinus thrombosis without much impairment of cerebration. The case was reported owing to the difficulty presented in the diagnosis. There were few psychic symptoms and the various neuralgias and peripheral nerve lesions gave no very definite pointings for cerebral localization. A rough synopsis of the case was given as follows: Rigor and high

temperature, beginning without apparent cause, neuralgia of the right fifth nerve for ten days, typhoid or septic condition resembling sinus thrombosis for six weeks, abscess appearing suddenly in the posterior right pharynx, six weeks later discharge from the right ear, paralysis of the right leg, death, autopsy, antrum and general mastoid disease, sigmoid and general sinus thrombosis, extending into the cortex of the left hemisphere.

The patient was a physician in active practice, the father of a large family of perfectly healthy children. He had himself suffered from no disease except malaria and gout. He came in one day after light exercise out doors complaining of a chilly sensation, had a terrible rigor which lasted over an hour, followed by a temperature of 104 and pain through the back and legs. Headache was not a symptom at the beginning, but appeared at the end of forty-eight hours. Four or five days afterward a distinct neuralgia manifested itself over the distribution of the right fifth nerve. A suppurative pharyngitis made its appearance, was opened and drained thoroughly with continued irrigation. The pain and tenderness over the whole right side of the head continued to be excruciating. A most careful search was made for a local source of infection in the antrum of Highmore and in the mastoid sinuses. A diagnosis seemed to rest between a neuralgia with malaria and an osteomyelitis of uncertain origin at the base of the skull, possibly from one of the sinuses of the nose. The case, while slowly improving, continued with various fluctuations. There was no adenitis over the mastoids or about the neck.

Each of the nostrils, orbits and ears was separately and carefully examined. Disease was looked for unsuccessfully in both frontal and maxillary sinuses. The mastoids were separately examined and the ear drums inspected, but no symptoms of disease discovered. After a time the patient complained of little chills at intervals, and vomited without apparent reason so far as the condition of the stomach and the vomited matter was concerned. Posterior rhinoscopy showed nothing abnormal. Transillumination of the face showed the two sides alike, not well lighted, this probably due to either thick cheeks or small antra. There was nothing abnormal by the anterior rhinoscopy. Both ears were examined perfunctionally with everything apparently normal and hearing good, and no pain nor tenderness in the region of the ear.

Without any warning and without any apparent local disease, there was discharged from the right ear in the course of a night at least two drams of dark pus which came through a perforated drum head and gave some relief to pain and nervousness. Afterward, commencing paralysis, and following the paralysis, a convulsion took place. A diagnosis was made of a localized lesion, probably abscess, in the neighborhood of the motor cortical area for the right leg and foot, secondary to suppuration in the pharynx. An exploratory operation was undertaken to relieve the local symptoms, but the trephine disclosed nothing definite. The patient did well after the operation and the wound healed completely. Shortly after, the patient died from exhaustion.

The postmortem findings were as follows: The skull-cap was moderately adherent over the longitudinal sinus. There were some flakes of pus on the convexity of the dura over the anterior portion of the sinus. The left hemisphere showed several punctate extravasations about the needle wounds of the trephine operation. The dura was only slightly adherent over the upper border of the left hemisphere with light fibrous exudate. The blood-vessels of the dura and pia were thrombosed over at least 6 cm. of the upper surface of the left hemisphere nearest the longitudinal sinus. The cut surfaces of the cortex itself had a dull greenish white appearance. The longitudinal sinuses were filled with a suppurating thrombus. There were a number of flakes of suppurating fibrin along the lateral walls of the sinus. Both lateral and both sigmoid sinuses were full of pus and blood, the right distinctly fluid. The dura over the right petrosa was adherent on the posterior surface. The jugular veins in the neck were not examined. No indications of infection were found in the lungs, the heart or in the abdominal organs. The right temporal bone was removed for more careful study, and with it portions of the surrounding bones. There was no sign of disease in the external auditory meatus, but the petrosa showed a honeycombing from erosion. If we attempt, in the light of the autopsy, to analyze the symptoms in the case and refer each to its pathologic source, we must first assume an early forgotten or overlooked middle-ear disease, perhaps as early as childhood or babyhood. There can be little doubt that the antrum was the primary focus of the infection. There is nothing in the pathological findings which would explain the facial neuralgia.

From a study of this case it seems reasonable to make the following conclusions: 1. Mastoid antrum disease is the appendicitis of the head. 2. In every case of infection within the head, where some other source of the infection can not be demonstrated, the mastoid antra should be explored. 3. The facial neuralgia is not explainable by the pathologic findings. 4. The excellent mental condition even up to the last seems hardly consistent with the obliteration of both jugulars and the suppuration in the great sinuses of the dura.

NEW YORK ACADEMY OF MEDICINE.

Meeting of the Section on Medicine, held March 19.

Dr. E. Franklin Smith, chairman.

Points Connected with the General Etiology and Pathogenesis of Diabetes Mellitus.

DR. HEINRICH STERN, in a paper on this topic, gave the results of his study of the mortality statistics of New York City for the period from 1889 to 1899 inclusive. It was from two to 2½ times more frequent in the male than in the female. Hebrews were specially liable to diabetes, but the Irish also showed some predisposition. This racial influence he attributes largely to the breeding in and in still so common in both of these races. Diabetes is not a disease of the rich alone, as some seem to think, for, of the 102 males dying from diabetes in one year, 66 were working people living in tenements. The author distinguished clinically five varieties, viz.: 1. Alimentary glycosuria; 2, hematogenic glycosuria; 3, neurogenic glycosuria; 4, common or hepatogenic diabetes, and 5, diabetes deterioration. The speaker said that many writers distinguish only two forms, a mild and a severe, and look upon them as differing in degree only. Seegen was the first to recognize two distinct and independent clinical types, and Dr. Stern added a third—the diabetic deterioration. This last form he considers a manifestation of a specific plasmogenetic process.

Diagnosis and Prognosis of Diabetes.

DR. HENRY S. STARK contributed a paper on this subject. He said that neither an acute nor a chronic glycosuria is sufficient for a diagnosis of diabetes mellitus; the glycosuria must be accompanied by polydipsia or polyuria with a deterioration of the general health. The cases most likely to be overlooked are those in which the quantity of glucose in the urine is small and the specific gravity low. Among the important symptoms of diabetes mellitus are extreme and persistent fatigue after only moderate physical exertion, acid saliva with a reddened tongue, premature grayness or sexual weakness, diminution of the patellar reflex, muscular cramps in the legs and muscular weariness. The fermentation test is the nearest approach to the ideal clinical test for glucose in the urine, and for the relative quantitative determination Fehling's test still holds its own. No one test should be considered sufficient: there should always be a control test. With proper diet and management many diabetics will live for ten or fifteen years. The prognosis depends on the age, the power of assimilating carbohydrates, early diagnosis, the condition of life, stage of the urine, and the existence of complications. Diabetes is always fatal in children. The quantity of urea excreted affords the best guide to the amount of tissue destruction. In the mild form are to be found those cases in which the glucose disappears when carbohydrates are excluded from the diet, while the severe type embraces cases in which the glucose does not disappear even under these conditions.

Diabetes in Children.

DR. HENRY DWIGHT CHAPIN made some remarks on this subject. He said that diabetes is very rare in children, but Ger-

hardt collected 111 cases, the ages varying from 11 months to 16 years. Dr. Chapin has only seen two cases, both exhibiting rapid emaciation and running a rapidly fatal course.

The Nervous System in Diabetes.

DR. PEARCE BAILEY, in his paper on this subject, said that all experimental glycosuria is temporary, and the evidence in favor of the nervous system as the origin of diabetes seems to be weakened rather than strengthened by modern research. Permanent glycosuria following experiments on the pancreas has been observed only when the pancreas has had its connections with the nervous system completely severed. He has found diabetes most commonly as a complication in general paresis, multiple sclerosis, tabes, myelitis, neurasthenia, paralysis agitans and hysteria. Neuritis is so common in diabetes that the urine should be tested for sugar in every case of neuritis.

Cutaneous Complications in Diabetes.

DR. S. SHERWELL, in his paper, said that the most common cutaneous manifestations observed in connection with diabetes mellitus are generalized scleroderma, eczemas of various kinds, erythematous lesions, such as erysipelas and gangrene, dermatitis herpetiformis and xanthoma diabeticorum. He is also disposed to include blastomycetic dermatitis. Furuncles of the neck and gluteal region are also frequently observed in diabetics. The eczematous lesions are best treated by promoting cleanliness and using some antiparasitic lotion, such as a 1 to 1000 solution of bichlorid of mercury.

Ocular Manifestations in Diabetes.

DR. NEIL J. HEPBURN mentioned the following in this connection: cataract, retinitis, oculomotor paralyses, iritis, paralysis of accommodation, keratitis, hemianopsia, glaucoma and detachment of the retina.

Diabetes Mellitus in Surgery.

DR. ROBERT T. MORRIS, in a paper on this phase of the subject, said that the modern surgeon does not fear to operate on a diabetic as did those of earlier days, though he recognizes the proneness to infection, the irritability of the kidneys and the possibility of the occurrence of gangrene. The speaker attributed the interference with the healing process to the abnormally dry state of the tissues resulting from the abstraction of moisture from them by the sugar-laden blood. The blood, under these circumstances, is also a good culture-medium for bacteria. Because of the state of the kidneys, the selection of the anesthetic is of importance: he personally prefers nitrous oxid in these cases as a preliminary to ether.

Treatment of Diabetes Mellitus.

DR. ABRAHAM MAYER presented this communication. He said that it is a great mistake to entirely exclude the carbohydrates from the diet, except for the purposes of diagnosis or at the commencement of treatment. Milk forms an important part of the diet of his diabetic patients, because they can often assimilate a large quantity of lactose without detriment. The food should be adjusted to the sex and weight of the patient, and he takes into consideration the laboriousness of the occupation. In neurasthenic diabetics he has often found opium act like quite a specific. He commences with a half grain three times daily, gradually increasing the dose to three times this quantity, it being understood that diabetics exhibit a special tolerance for this drug. He also uses Fowler's solution of arsenic, and of the bromid of arsenic in doses of 1/30 to 1/10 gr. three times a day. The patient should be protected from worry and nervous shocks. Phthisis is a very common complication of diabetes.

Glycosuria and Diabetes Mellitus in Relation to Life Insurance.

DR. E. H. BARTLEY, in his paper on this topic, said it is generally admitted that an appreciable quantity of sugar is present in normal urine, and the question arises as to when glycosuria should be considered as synonymous with diabetes mellitus. His view is that when a trace of sugar sufficient to be detected by Trommer's, Fehling's or Nylander's test is present in the urine, a second specimen of urine should be examined before accepting or rejecting the applicant for life insurance. There is no known chemical test for differentiating between a temporary glycosuria, possibly resulting from an indiscretion in diet, and true diabetes, but some hint of the true condition can be had by estimating the total solids in the urine for twenty-four hours. This can be done approximately by multiplying the last two figures of the specific gravity by the number of ounces voided. The normal quantity is about 1000 grains. As it is ordinarily impossible, however, to secure the total quantity of urine for the twenty-four hours, another method is to have the applicant remain in the office for one hour. Ordinarily about two ounces of urine can be voided in this time, but in diabetics this quantity will often reach three to seven ounces. Some allowance should also be made for the time of day.

DR. ANDREW H. SMITH called attention to the fact that diabetes mellitus is about five times more frequent among locomotive engineers than among average people. He attributes this to the intense mental concentration demanded by their occupation.

DR. A. ROSE spoke briefly of the treatment of diabetes by the use of baths of carbonic acid gas.

DR. JAMES K. CROOK said that almost all observers conceded that the liver is hyperemic in diabetes, and that this is due to a loss of tone in the vasomotor system. It is moreover known that anything which will cause a dilatation of the superficial capillaries, and hence a diminution of the quantity of blood in the liver will cause a lessening of the quantity of sugar in the urine. These and other facts seemed to indicate a close connection between the nervous system and the development of glycosuria. On the other hand, it has been shown that most diseases of the nervous system are not ordinarily associated with diabetes.

DR. STARK said that fully one-third of the cases of diabetes have both albumin and sugar in the urine, but this is of no special significance unless there are other indications of nephritis.

DR. MAYER said that he had not found albuminuria so common among his diabetics, and he would not look upon it so lightly, as he thinks it indicates that there has been a destruction of the epithelium covering the Malpighian tuft.

DR. BARTLEY took the same position regarding the prognostic import of albumin in the urine of diabetics.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, method of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment will be answered in these columns.]

Epilepsy.

A correspondent asks advice on the following case: The patient is a boy about 6 years of age, who commenced having spasms about eighteen months ago. At first these were very light and occurred about once a month, but have gradually become more and more frequent until now fifteen or twenty occur each day and they last from one to five minutes. At first these attacks came on at night; now they occur both night and day and commence with a choking sensation. When the patient is in bed he rises up to a sitting posture, holds his breath, foams at the mouth, but never cries during, before or after an attack. After the attacks he will go to sleep almost instantly, and says the attacks do not hurt him, but that it feels like there is something in his throat. Appetite is good, but not excessive, digestion and general health fairly good. He was circumcised some time ago. Increasing doses of bromid continued about a month, made symptoms worse. He was then put on santonin and calomel, as there was a suspicion that worms was the cause of the trouble. Our correspondent asks for diagnosis and treatment.

ANS.—The child probably has epilepsy. As regards treatment. The diet should be regulated. He should be allowed to

eat soft-boiled eggs, tender meats, bread, butter and potatoes. The elimination should be carefully looked into. The urine should be repeatedly examined for albumin or sugar, the amount of elimination by the kidneys should be calculated from a 24-hour product; and the amount of urea should be estimated. The child may have a nephritis as the cause of the disturbance, in which case the bromids would not be indicated. The teeth should be examined, the bowels properly regulated and hepatic stimulants administered if necessary. The entire trouble may be based on a toxemia, and if so by observing the above points, the attacks will be diminished.

For the bowels and liver, give small doses of hydrargyri chloridum mite at proper intervals. Mercury in this form and in small doses not only produces catharsis, but is a general glandular stimulant. Dilute nitro-muriatic acid in five-minim doses will stimulate the hepatic secretion. It should be given two or three times daily. If the kidneys are not eliminating properly the child may be given diuretics. The cause of the trouble should be ascertained, if possible, for it must be remembered that a great many remedies which are able to do good will, when not properly applied, have the same power to do harm.

AS TO THE TREATMENT OF THE ATTACKS.

The bromids are certainly the best agents, given in doses of as many grains as corresponds to the age of the child. This dose should be repeated three times a day and given immediately after eating. Toulouse and Ricket, of Paris, suggest withdrawing the chlorids from the diet in the endeavor to make the bromids more effective, thus making the system more subjective to their action. Boracic acid has been given in some cases with success when the bromids have failed to obtain the proper results.

Solanum Carolinense (horse nettle) is a powerful sedative, and has given splendid satisfaction in controlling the convulsions of epilepsy. It may be given in the form of fluid extract in doses of 8 to 10 minims three times a day. Acetanilid in small doses or monobromated camphor each have been of use in epilepsy. The following prescriptions are recommended, the dose to be varied according to the age of the child.

R.	Potassii bromidi	gr. vii	44
	Tinct. belladonnæ	m. x	66
	Spts. ammon. arom	m. x	66
	Syrupi aurantii	ʒss	2
	Aquæ q. s. ad	ʒss	16

M. Sig.: At one dose: to be repeated three times a day for a child 8 years of age.

Or,

R.	Potassii bromidi	gr. v	30
	Sodii bicarb	gr. v	30
	Pulv. rhei	gr. ss	03
	Spts. chloroformi	m.v	30
	Aquæ q. s. ad	ʒss	16

M. Sig.: At one dose, repeated three times a day for a child of 8 years.

The Administration of Digitalis.

Hale White recommends the following formula:

R.	Tinct. digitalis	ʒiss	6
	Tinct. nucis vomicæ	m.xlv	3
	Caffeinæ	gr. xxv	1 66
	Iodii salicylatis	gr. xii	75
	Syrupi aurantii	ʒss	16
	Aquæ q. s. ad	ʒv	160

M. Sig.: Two tablespoonfuls three times a day in water.

His object in giving this prescription is evidently to obtain the combined tonic effect on the heart and the diuretic effect of the caffein.

Treatment of Herpes Zoster (Shingles).

For herpes zoster, always begin the treatment by administering a saline purge. Keep the painful region dry by using the following dusting powder:

R.	Pulv. amyli	ʒii	64
	Pulv. camphoræ	gr. xxx	2
	Pulv. opii	gr. xv	1
	Zinci oxidi	ʒiv	16

M. Sig.: Apply locally as a powder, and

FOR THE NEURALGIA:

R.	Ext. stramonii		
	Ext. hyoscyami, āā	gr. 1/5	012
	Ext. belladonnæ	gr. 1/10	006

M. Ft. pil. No. i. Sig.: One such four times daily.

Or,

R.	Thiol		
	Aq. destil. āā	ʒi	32

M. Sig.: Apply locally.—*Encyc. Pract. Med.*

Treatment of Neurasthenia.

Gray, in *Med. News*, states that the treatment of this disease consists in the removal of the cause, if possible. A certain amount of rest, both physical and mental, should be insisted upon; the administration of tonics and electricity should be carried out. The patient should lie in bed from ten to twelve hours out of the twenty-four, and avoid fatigue when he is up. Iron, quinin and strychnin are the agents most generally useful, where there is anemia, conjoined with large amount of meat and beef tea and an abundance of fresh air. In the non-anemic cases the best tonic is strychnia, from 1/50 to 1/30 grain three times a day.

Fecal Impactions.

As treatment when the impaction is located in the lower rectum, it can always be softened and evacuated by frequent copious enemeta of warm soap suds containing oil and glycerin. Gant, in *N. Y. Med. Jour.*, recommends the following:

R.	Soap suds	Oi	512
	Castor oil	ʒi	32
	Glycerin	ʒii	64

M. Sig.: Inject into rectum every two hours and retain as long as possible.

Treatment of Burns.

Armstrong, in *Med. Sentinel*, states, in treatment of burns of second degree, that water or solutions containing water are bad; vaselin does not act suitably; the application of rough gauze to the surface is not proper. He cuts away every portion of the bleb and takes care that no margin is left under which any trouble may arise. He applies oleum ricini 95 per cent., and balsamum Peruvianum 5 per cent.; then he covers with oil silk, which may be perforated. Some cases may improve more in the later stages by resorting to the use of dry boric acid dressings.

An Ointment for Corns.

R.	Acidi salicylici	ʒss	2
	Resini	ʒi	4
	Adipis	ʒii	8
	Olei amyg. dulcis	ʒi	4

M. Sig.: Trim the corn and apply this ointment placed upon a piece of cloth.

Tinea Circinata.

R.	Sulphuris precip	gr. xlv	2 66
	Hydrarg. ammon	gr. xv	1
	Thymol	gr. iv	25
	Unguenti simplicis q. s. ad	ʒii	64

M. Sig.: Apply locally night and morning. This is applicable in ringworm occurring in children.

Treatment of Neuropathic Alopecia.

The following prescriptions are given by Brocq.

R.	Acidi acetici glacial	m. xii	75
	Tinct. cantharidis	ʒi	4
	Spts. rosmarini	ʒi	4
	Tinct. tritici	ʒii	8
	Spts. camphoræ	ʒii	8

M. Sig.: Apply locally.

Or,

R.	Aq. ammoniæ	m. xxiv	1 66
	Tinct. pyrethri		
	Tinct. jaborandi āā	ʒi	4
	Olei terebenthinæ	ʒi	4
	Alcoholis	ʒvi	24

M. Sig.: Apply locally.

For Perspiring Feet.

The following rules have been laid down to prevent excessive perspiration of the feet: Wear low shoes, wool stockings, and dust the feet over twice a day with iodol. The following may be used as a wash:

℞.	Liq. plumbi diacet	℥ii	8
	Acidi carbol	℥ii	8
	Aq. q. s. ad	℥ii	64

M. Sig.: One tablespoonful to be mixed with a pint of warm water and wash the feet every morning and dry with a soft towel.

Treatment of Gonorrhea.

℞.	Plumbi acetatis	gr. xv	1
	Zinci sulphatis	gr. xii	75
	Ext. krameriæ flu	℥ii	8
	Tinct. opii	℥ss	16
	Aq. q. s. ad	℥vi	192

M. Sig.: Use as an injection twice daily.

To Remove Plaster-of-Paris Casts.

The *Med. Times* gives the following method of removing casts: Mark a line, with a lead pencil, on the cast. Along this line apply a little cotton or a thin layer of cotton-wool and soak the same with peroxid of hydrogen, the wool being about ½-inch wide. In a short time the plaster will be soft enough to be cut through with an ordinary knife or a pair of scissors. Vinegar or bichlorid solution may be used instead of the peroxid of hydrogen.

Administration of Oleum Morrhuae to Children.

Sheffield suggests the following as a palatable form of administering oleum morrhuæ to children:

℞.	Olei morrhuæ	℥ii	64
	Ext. malt.	℥ss	16
	Syr. calcii hypophos	℥ss	16
	Glycerini	℥ii	8
	Pulv. acaciæ	℥ii	8
	Aq. cinnamomi q. s. ad	℥iv	128

M. Sig.: One to two teaspoonfuls after each meal.

Astringents in Diarrhea of Children.

In cases where astringents are indicated, he recommends the following:

℞.	Bismuthi subnitratis	℥i	4
	Misturæ cretæ comp.	℥iii	12
	Glycerini	℥iv	8
	Mist. acaciæ	℥iss	48
	Aq. menth. pip. q. s. ad	℥ii	64

M. Sig.: One teaspoonful every two hours until the diarrhea is checked.

Night Terrors.

Huber, in *Pediatrics*, states that he would omit ghost stories, goblins, giants, thrilling literature, exciting games, and avoid dark, poorly ventilated rooms. Heavy indigestible meals at night and the use of tea, coffee or alcohol in any form favor the occurrence. The mode of life of the patient must be studied, the habits investigated and taxation of the nervous system avoided. Tonics and hematinics should be given to the pale anemic children, and sometimes the bromids or other nerve sedatives to neuropathic children.

Medicolegal.

Sworn Certificate of Physician Indispensable.—The Supreme Judicial Court of Massachusetts holds, in the case of Audette vs. L'Union St. Joseph, that, in that state, when a by-law of a benefit association requires the production of a sworn certificate of a physician before any sick member shall receive benefits, the certificate is indispensable, and it is no excuse that the attending physician refuses to make one on account of conscientious scruples against taking an oath. Such a case, it says, comes within the rule that where one engages for the act of a stranger he must procure the act to be done, and the refusal of the stranger, without the interference of the other party, is no excuse.

State May Probibit the Sale of Alum Baking Powders.—The Supreme Court of Missouri, Division No. 2, holds constitutional, in the case of State vs. Layton, the act of May 11, 1899, making it a misdemeanor "for any person or corporation doing business in this state to manufacture, sell, or offer to sell, any article, compound or preparation for the purpose of being used, or which is intended to be used, in the preparation of food, in which article, compound or preparation there is any . . . alum." It points out that as early as the thirty-seventh year of the reign of George III., the British parliament absolutely prohibited the use of alum in the making of bread; that, irrespective of the statute, it was held indictable to use it in large quantities; and that such seems still to be the statute law of England. And, in view of the sharp conflict of testimony as to the noxious or innocuous character of alum baking powders, it says that it can not take judicial notice that these powders are a perfectly innocuous preparation. As to the test, when the constitutionality of an act of the legislature is assailed as invading the right of the citizen to use his faculties in the production of an article for sale for food or drink, it says that, if it be an article so universally conceded to be wholesome and innoxious that the court may take judicial notice of it, the legislature, under the constitution, has no right to absolutely prohibit it; but if there is a dispute as to the fact of its wholesomeness for food or drink, then the legislature can either regulate or prohibit it.

No Liability for Refusal to Answer Emergency Call.—In the case of Hurley, administrator vs. Eddingfield, an action brought by the former to recover $10,000 damages for the alleged wrongfully causing the death of his intestate, the Supreme Court of Indiana says that the material facts alleged by the plaintiff may be summarized somewhat as follows: At and for years before the death of the intestate the defendant was a practicing physician at a certain place in that state, duly licensed under the laws of the state. He held himself out to the public as a general practitioner of medicine. He had been the intestate's family physician. The intestate became dangerously ill and sent for him. The messenger informed him of the intestate's violent sickness, tendered him his fee for his services, and stated to him that no other physician was procurable in time and that the intestate relied on him for attention. No other physician was procurable in time to be of any use, and the intestate did rely on the defendant for medical assistance. Without any reason whatever, the defendant refused to render aid to the intestate. No other patients were requiring the defendant's immediate service, and he could have gone to the relief of the immediate service, and he could have gone to the relief of the intestate if he had been willing to do so. Death ensued, without the intestate's fault, and wholly from the defendant's wrongful act. The defendant demurred to this complaint. The circuit court sustained his demurrer, and the supreme court now affirms the judgment of the lower court, holding that there was no error in its ruling on the demurrer. The supreme court says that the alleged wrongful act was the defendant's refusal to enter into a contract of employment. Counsel did not contend that, before the enactment of the law regulating the practice of medicine, physicians were bound to render professional service to every one who applied. The act regulating the practice of medicine provides for a board of examiners, standards of qualification, examinations, licenses to those found qualified, and penalties for practicing without license. The act is a preventative, not a compulsory measure. In obtaining the state's license (permission) to practice medicine, the state does not require, and the licensee does not engage, that he will practice at all or on other terms than he may choose to accept. Counsel's analogies, drawn from the obligations to the public on the part of innkeepers, common carriers, and the like, the supreme court adds, are beside the mark.

Verification of X-ray Pictures.—The Supreme Judicial Court of Massachusetts holds, in the personal injury case of De Forge vs. the New York, New Haven and Hartford Railroad Company, that, while a picture produced by an *x*-ray can not be verified as a true representation of the subject in the same way

that a picture made by a camera can be, yet it should be admitted in evidence if properly taken. For example, in this case, after the plaintiff had put in evidence *x*-ray pictures of his two feet, the defendant company offered the glass plate from which his pictures were taken, and other pictures printed from the same plate. The photographer who took the plaintiff's pictures testified that he did not know much about the *x*-ray; while the person who took the pictures for the company was a physician of high standing, who had taken, as he testified in the neighborhood of a hundred *x*-ray pictures, and had seen the majority of them developed. Now, the evidence of verification the court considers was stronger in the case of the company's pictures than in the case of the plaintiff's, and, on this evidence, it says that it does not deem it possible that the judge could have excluded the plate or the company's pictures on the ground that they were not duly verified. As to the assertion that he might have excluded them in the exercise of the discretion vested in him, the court answers that it is in the matter of verification or authentication that the judge has discretion. It says that it can see no reason why the plate from which the pictures put in evidence by the plaintiff was printed should not have been admitted. It was produced by the photographer who made the pictures. It was not enough to render it inadmissible that it had on it the letters "R" and "L." which had been put on it after the pictures put in evidence by the plaintiff had been printed, these letters in no way obscuring the portion of the left foot in controversy and being certainly no more objectionable than the words "left" and "right" written in lead pencil under the toes of the plaintiff's pictures of his two feet, respectively. Moreover, if it were true, which it does not find to be the case, that there was some doubt as to the manner in which the plate was made, the court suggests that the exclusion should not have stopped with it, but that the plaintiff's pictures should not have been admitted. And it holds that it was clearly competent for the company to introduce evidence to show that the plaintiff's pictures showing an enlargement of one of the feet, and from which a witness for the plaintiff discovered a fracture, did not represent the left foot, as the evidence for the plaintiff indicated, but the right, and for this purpose to show the difference between an ordinary photograph and one taken by an *x*-ray. Wherefore, the court is of the opinion that the rights of the company were violated in the exclusion of the evidence it offered, and that the glass plate, the pictures taken by the company, and the evidence offered by it and excluded should have been admitted.

Manslaughter—Dying Declarations—Physician's Duty.—It was contended, in the case of the State of Washington vs. Power, a physician, that inasmuch as the statute makes it a substantive offense, punishable as such, for any person to administer drugs to or use instruments upon a pregnant woman for the purpose of procuring her miscarriage, such acts must be punished in the way the statute points out, under an indictment or information charging one or more of these specific acts alone, and can not, therefore, be the unlawful acts which were intended to be included within the statute defining the crime of involuntary manslaughter. The Supreme Court of Washington, however, does not think this contention sound. It says that it will be noticed that the statute prescribes a punishment for doing these specific acts, without regard to the effect such acts may have upon the person operated upon. The crime is completed when the prohibited acts are committed, and their effect is not made a material inquiry. And, as the legislature has made the acts punishable as acts, without reference to their consequences, it declares that it can not think it was intended to exempt a person causing the death of another by these means from being informed against and punished under the general statutes relating to unlawful homicides. Objection was also made in this case to the state being allowed to introduce statements made by the deceased some two days previous to her death as dying declarations. The answer of the supreme court on this point is that the rule requiring it to be shown that the declarations were made while the declarant was *in extremis* does not require that it be shown that they were made while the declarant was literally breathing her last. The rule is satisfied when it is shown that the declarant died in the course of the illness from which she was suffering at the time they were made, and that the illness from which she was suffering was the direct and proximate result of the original injury which the declarations tend to illustrate. Finally, it was urged that error had been committed in giving the jury the following instruction: "When a physician undertakes to attend an sick person, the law imposes upon him the duty of directing the sanitary conditions surrounding the patient, of prescribing the proper medicines and the times and manner of taking, and whatever other appliances and operations necessary to the restoration of health. As to the question whether or not the deceased was improperly treated in these respects, you are to find from all the evidence in the case; and, if you have a reasonable doubt from the evidence as to whether or not the deceased was improperly treated in these respects, then you must find the defendant not guilty." But it will be noticed, the supreme court says, that no attempt was made, in this instruction, to define the degree of care and skill required of a physician. This was done in the preceding instruction, which is not quoted in the opinion, and, while it is true that the word "gross" was not used, yet the jury were told that they could not find the defendant guilty unless they found that his neglect was willful and felonious. The charge as a whole, the court holds, was a clear and concise statement of the law applicable to the case, and could not have misled the jury.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Medical News (N. Y.), April 6.

1 *Advertising in the Profession. G. Frank Lydston.
2 *Resection of the Cervical Sympathetic. Howard J. Williams.
3 *The Question of Drainage in Appendicitis. A. M. Pond.
4 *New Methods in Charity, with Better Results at Less Cost. Wm. P. Spratling.

Boston Medical and Surgical Journal, April 4.

5 *Diseases of the Myocardium. Henry Jackson.
6 *The Condition of the Myocardium as Affecting Cardiac Murmurs. H. D. Arnold.
7 A Further Note on the Treatment of Epidermoid Cancer. Francis H. Williams.
8 Report of Cases from the Second Surgical Service of the Children's Hospital, Boston. (Congenital Paraplegia, Etc.) H. L. Burrell, R. W. Lovett, and J. E. Goldthwait.

Philadelphia Medical Journal, April 6.

9 *The Prophylaxis of Venereal Diseases. Prince A. Morrow.
10 *On Certain Disorders of Sleep. Charles A. Dana.
11 *General Metabolism in Diabetes Mellitus. David L. Edsall.
12 *A Preliminary Communication of a Study of the Brains of Two Distinguished Physicians, Father and Son. Edward Anthony Spitzka.
13 Santiago as a Yellow Fever Center. L. C. Carr.
14 *A Correlation of Some Facts in the Propagation of Yellow Fever, with the Theory of its Conveyance by the Culex Fasciatus. H. R. Carter.
15 Suprarenal Capsule—Its Use in Rhinological Operations. Charles C. Royce.
16 A Clavicle Crutch. Carter S. Cole.
17 A New Tenaculum. R. C. Coffey.

New York Medical Journal, April 6.

18 *The Active Principles of Digitalis Leaves. Joseph W. England.
19 *Comparative Pathology of the Jews. (Concluded.) Maurice Fishberg.
20 Pathology of Intrauterine Death. (Continued.) Neil MacPhatter.
21 *Rectal Feeding in Throat Diseases. A. C. Bardes.
22 Medical Aspect of Christian Science. W. M. Polk.

Medical Record (N. Y.), April 6.

23 *Relation of the Public to the Medical Profession. D. B. St. John Roosa.
24 *The Importance of Aseptic Vaccination, with Remarks on Vaccination in General. Wilhelm Karl Kubin.
25 *The Field for Ethyl Chlorid Narcosis. Martin W. Ware.
26 *On the Diagnosis and Prognosis of Diabetes Mellitus. Henry S. Stark.

Cincinnati Lancet-Clinic, April 6.

27 *Deformities or Defects in Development from Adenoids. John A. Thompson.
28 Gumma of the Sternum. Mark A. Brown.

St. Louis Medical Review, April 6.

29 Substitute Infant Feeding by Laboratory Milk. John Zahorsky.
30 *Surgical Management of General Peritonitis, Resulting from Perforating Appendicitis. John Young Brown.
31 *The Cure and Prevention of Scarlet Fever by the Use of Diphtheria Antitoxin. C. H. Dalton.

American Medicine (Philadelphia), April 6.

32 Medical Aspects of Carcinoma of the Breast, with a Note on the Spontaneous Disappearance of Secondary Growths. (To be continued.) William Osler.
33 Mortality of Operation for Obstructive Jaundice. (To be continued.) John B. Deaver.
34 *Phelps' Operation for Clubfoot with a Report of 1650 Operations. (To be continued.) A. M. Phelps.
35 An Obscure Case of Hysteria with Associated Right Mydriasis and Amblyopia and Left Myosis. (To be continued.) H. A. Hare.
36 *Carcinoma of Pylorus. Frank Billings.
37 *Puerperal Sepsis: Its Prevention and Methods of Treatment. E. E. Montgomery.
38 On the Anatomy of the Renal Vessels and Pelvis of the Kidney in Relation to Digital Exploration of that Organ in the Operation of Nephrotomy. William Keiller.
39 A Rare Form of Extrauterine Pregnancy. Brice W. Goldsborough and Thomas S. Cullen.
40 *The Early Diagnosis of Insanity. Carlos F. MacDonald.
41 Dust as a Factor in Diseases of the Upper Respiratory Passages. (To be continued.) W. Scheppegrell.

Bulletin of the Johns Hopkins Hospital (Baltimore), February.

42 *Preliminary Note of a Case of Infection with Balantidium Coli (Stein). Richard P. Strong and W. E. Musgrave.
43 Hyperextension as an Essential in the Correction of the Deformity of Pott's Disease, with the Presentation of Original Methods. R. Tunstall Taylor.
44 *Two Examples of Bence Jones' Albumosuria Associated with Multiple Myeloma. Louis P. Hamburger.
45 Report of a Case of Fulminating Hemorrhagic Infection Due to an Organism of the Bacillus Mucosus Capsulatus Group. George Blumer and Arthur T. Laird.

Louisville Monthly Journal of Medicine and Surgery, April.

46 Practical Consideration of Acute Suppurative Inflammation of the Middle Ear and Mastoid. J. Morrison Ray.
47 Diseases of the Sigmoid Colon. William V. Laws.
48 Traumatic Injuries of the Skull. R. C. McChord.
49 Infantile Malaria. William Britt Burns.
50 Malignant Tumor of the Omentum. C. E. Speidel.

Journal of Experimental Medicine (N. Y.), March 25.

51 *Malarial Parasitology. James Ewing.
52 *The Nerves of the Capillaries, with Remarks on Nerve endings in Muscle. Chr. Sihler.
53 *The Influence of Bile on Metabolism. Elliott P. Joslin.
54 *The Relation of Diabetes Mellitus to Lesions of the Pancreas. Hyaline Degeneration of the Islands of Langerhans. Eugene L. Opie.

Pennsylvania Medical Journal (Pittsburg), March.

55 *Report of Three Cases Bearing on the Subject of Ovarian Hydrocele. Reed Burns.
56 A Plea for the Earlier Recognition of Squint in Children by the Family Physician and the Earlier Application of the Methods of Treatment. C. A. Veasey.
57 Nausea and Vomiting in Pregnancy. John M. Batten.
58 Surgical Intervention in Purulent Discharges from the Ear. Joseph E. Willetts.

St. Louis Medical and Surgical Journal, April.

59 Deformations on American (Incan) Pottery Not Evidence of Pre-Columbian Leprosy. Albert S. Ashmead.
60 About Carbon Dioxid. Enno Sander.

Archives of Ophthalmology (New Rochelle, N. Y.), March.

61 The Equivalent Refractive Index of the Lens in Accommodation. W. N. Suter.
62 Exenteration of the Orbit for Malignant Disease with Immediate Application of Thiersch Skin flaps Throughout the Entire Orbital Wound. Harry Friedenwald.
63 *Different Methods in Which Glioma of the Retina Invades and Affects the Optic Nerve. E. F. Snydacker.
64 *On Ulcus Rodens Corneæ. Prof. Schmidt-Rimpler.
65 *Experimental Investigations on the Effect of Posterior Sclerotomy. Theodor Tobler.
66 *Clinical Contribution to the Subject of Unilateral Nystagmus. Otto Neustätter.
67 Contribution to Ophthalmoplegia Interna, with Special Reference to Reflex Iridoplegia. George Levinsohn.

Clinical Review (Chicago), April.

68 Surgical Clinic. (Osteomyelitis, Lymphoma, Etc.) N. Senn.
69 Clinical Lectures upon the Etiology, Pathology, Diagnosis and Treatment of Tumors. A. H. Levings.

American Journal of Obstetrics, March.

70 *Preferable Technique of Closing the Incision in Abdominal Section and Herniotomy. J. Wesley Bovée.
71 *The Use of the Spray in the Local Treatment of Gynecologic Diseases. James C. Wood.
72 Interstitial Pregnancy. Louis J. Ladinski.
73 Glue Casts for Teaching Primary Repair of Perineal Injuries. Robert L. Dickinson.
74 A Few Observations on Cystitis with Presentation of a Cystoscope. J. M. Baldy.
75 A Report of Two Cases of Cesarean Section Under Positive Indications, with Terminations in Recovery. Daniel H. Williams.
76 Dry Labor: Report of a Case with a Peculiar History. L. W. Atlee.
77 Dermoid and Other Cysts of the Ovary. (To be continued.) Samuel W. Bandler.

Mississippi Medical Record (Vicksburg), April.

78 Cerebral and Meningeal Manifestations of Malaria. W. A. Carnes.
79 The midwife. B. L. Culley.

Annals of Surgery (Philadelphia), April.

80 *Conservative Operations for Renal Retention. Christian Fenger.
81 *The Appendix in Relation to the Psoas Muscle in Three Hundred Male and One Hundred and Eighteen Female Adult Autopsies. Trauma of the Psoas Muscle Produces Appendicitis. Byron Robinson.
82 *The Value of the Roentgen Method of Diagnosis in Detecting and Excluding Renal and Ureteral Calculi. Charles Lester Leonard.
83 *Ileus Due to Vascular Obstruction. L. L. McArthur.
84 Ileus Due to Mechanical Obstruction of the Fecal Current. D. A. K. Steele.
85 Ileus Caused by Neoplasms. A. J. Ochsner.
86 Fissure of the Head of the Radius. Carl Beck.
87 Excision of the Cervical Sympathetic Ganglia for Exophthalmic Goiter. J. Shelton Horsley.

Medical Dial (Minneapolis, Minn.), April.

88 Radical Cure of Femoral Hernia. Knut Hoegh.
89 Chloretone in General Practice. Harry F. Thompson.
90 Quinin as an Antipyretic. J. Hobart Egbert.

Love's Medical Mirror (St. Louis), March.

91 *Fatty Degeneration of the Heart. Thomas G. Satterthwaite.
92 A Report of Two Cases of Knee-Joint Trouble Occurring in Infants. F. B. Hall.
93 "Acute-Purpura Hemorrhagica with Autopsy." F. W. Gavin.
94 *The Cure and Prevention of Scarlet Fever by the Use of Diphtheria Antitoxin. H. C. Dalton.
95 Persistent Suprapubic Vesical Fistula Treated by Means of Bottini's Operation. Willy Meyer.

New Orleans Medical and Surgical Journal, April.

96 Relation of a Case of Cardiac Embolus Following Forceps Delivery; Death Fifteen Days Later. L. G. Lebeuf.
97 Case of Supra-vaginal Amputation of the Uterus for Fibroids Complicating Pregnancy. C. Jeff Miller.
98 Ankylosis of the Temporo-Maxillary Articulations with Osteoclasis and Formation of New Joints. Paul A. McIlhenny.
99 Three Cases of Ocular Disease. M. Feingold.
100 Suprarenal Liquid with Chloretone in Rhinology. Chas. F. Sauter

Medical Council (Philadelphia), April.

101 Disorders of the Sexual Function in Man. (To be continued.) A. H. P. Leuf.
102 Hemorrhoids: Etiology, Pathology and Treatment. Charles F. Hope.
103 An Unusual Case of Eclampsia. Wm. B. Kenworthey.
104 A Case of Erythema Scarlatinaforma. Ralph Browning.
105 Curing Common Colds. Quick Cure of La Grippe. B. F. Underwood.
106 Injection Method for the Relief and Cure of Hernia. C. Fletcher Souder.
107 Vesico-vaginal Fistula, Spontaneously Closed After Vaginitis. W. O. Bunnell.
108 On Suggestive Therapeutics, Magnetic Healing, and Osteopathy. T. H. Line.
109 Poisoning by Hyoscin Hydrobromate. A. G. Servoss.
110 *Pneuma-Massage. Chas. B. Morrell.

Southern Practitioner (Nashville, Tenn.), April.

111 Charge to the Graduating Class of the Medical Department of the University of Tennessee. Perry Bromberg.
112 Use of Bromids in Hysteria, Delirium, Etc. J. S. Murphy.
113 Laparotomy for Pus in the Pelvis Under Analgesia from Intraspinous Injection of Cocain—A Clinical Lecture. Wm D. Haggard, Jr.

Medical Examiner and Practitioner (N. Y.), March.

114 *Under Average Risks. E. Poels.
115 *Mitral Stenosis. J. Mora Moss.
116 *The Significance of Arteriosclerosis in Life Insurance Examinations. S. Mahillon.
117 *Deaths by Lightning. S. W. Abbott.
118 *Cremation as a Life Insurance Problem. Frederick L. Hoffman.

119 Wheeling for Health and Not for Records. F. S. Grant.
120 Acute Parenchymatous Nephritis Engrafted on an Old Granular Kidney—Uremia from Suppression of Urine—Coincident Venesection and Normal Saline Transfusion. Talbot Jones.
121 Treatment of Lobar Pneumonia in Children. C. Eugene Lack.
122 Some of the Advantages of the Local Examiner Making and Sending Direct Examinations. B. Roscoe Gary.
123 Should the Medical Examiner Return His Report of an Applicant for Life Insurance to the Agent. John H. Duncan.

Southern California Practitioner (Los Angeles), March.

124 Physical Effect of Alcohol. W. V. Whitmore.
125 A Case of Contracted Pelvis. F. O. Yost.
126 Mutual Obligation of the Medical Profession and the Public. Geo. L. Cole.
127 Treatment of Incised Wounds. Albert Soiland.
128 Percentage Artificial Feeding. Kate Wilde.
129 Care of Chronic Cases in Sanatoria. W. Jarvis Barlow.

Southern Medical Journal (La Grange, N. C.), March.

130 Some Practical Points in the Study of Typhoid Fever. Geo. W. Lecato.
131 Clinical Aspect of Pneumonia. J. W. P. Smithwick.
132 Visiting the Sick. D. S. Merrill.
133 Skin Grafting: A Report of Two Cases. J. W. P. Smithwick.

Carolina Medical Journal (Charlotte, N. C.), March.

134 *Moot Questions in Abdominal Surgery. H. A. Royster.
135 Pneumonia. I. W. Faison.
136 *Notes on Heroin and Heroin Hydrochlor. T. W. Keown.
137 Importance of Dilating the Pupil in Treating Inflammatory Diseases of the Eye. W. H. Wakefield.

Charlotte Medical Journal, March.

138 *Moot Questions in Abdominal Surgery. H. A. Royster.
139 *To Cut or Crush in Stone of the Urinary Bladder. Stuart McGuire.
140 A Case of Severe Mastoid Neuralgia. John Dunn.
141 *Have We a New Treatment for General Septic Infection? Van Telburg-Hofman.
142 One Day's Experience in General Practice. I. A. McSwain.
143 Has Cod Liver Oil a Place in Pediatric Therapeutics? Henry Y. Ostrander.
144 Lithemia. Addison E. Jones.
145 The New Century. T. B. Greenley.
146 Toleration and Intolerance. T. Beath.

New England Medical Monthly (Danbury, Conn.), April.

147 Report of State Hygiene. Granville P. Conn.
148 Case of Extreme Anematosis. T. J. Biggs.
149 On the External and Internal Employment of Argentamine. Dr. Bergel.
150 Prevalence and Treatment of Gout. Charles W. McIntyre.
151 Abuse of the Curette. Augustin H. Goelet.

AMERICAN.

1. **Medical Advertising.**—In this article Lydston holds that advertising is a necessity in the medical profession as in others, and notices the way in which the Code of Ethics is circumvented if not often openly violated by professional men. He notices the multiplication of medical colleges which are coming to make it a distinction not to be a professor, and remarks that while teachers often pose as philanthropists selfish advertising is the most probable cause of their action. He maintains that the unwritten law of the medical profession, that its members must keep themselves in the background, has been one of the greatest stumbling blocks to professional advancement and the influence of physicians would be greatly increased if it were ignored. Medical men should take a hand in public affairs and make themselves prominent in politics and other matters, and should not object to legitimate notice. This, however, does not include self puffs or courting newspaper notoriety in medical matters, inviting reporters to clinics, etc., or publishing alleged new discoveries from undigested and insufficient research. He says careful, conscientious work and good results are the best advertisements, but in order to get these we must have patients.

2. **Resection of the Cervical Sympathetic.**—After reporting a case of resection of the cervical sympathetic for glaucoma, Williams reviews the history of the operation and mentions its indications. He says sympathectomy is indicated in glaucoma simplex, inflammatory glaucoma where iridectomy has failed, hemorrhagic glaucoma early in the disease; and it should be tried in absolute glaucoma with pain in preference to enucleation. In unilateral trouble the ganglion of the corresponding side should be excised. While sympathectomy may not be curative in every case of glaucoma, the results thus far have been sufficiently satisfactory to make it a desirable procedure in this much-dreaded disease. The operation in other conditions such as Graves's disease, etc., is noted, but the author thinks that its use in epilepsy is practically a failure, judging from reported experience. The bad effects reported in animals from cervical resection do not appear to occur in human subjects.

3. **Drainage in Appendicitis.**—The question of drainage in appendicitis is noticed and Pond thinks that the peritoneum is capable of disposing of large quantities of pus if equally distributed over the peritoneal area. What is needed is some agent which will put pus and pus-forming elements into solution. The requisites of such are sterility, the power of holding the pus, blood, etc., in a homogeneous solution, and that it should be a stimulant to absorption. Hot normal saline solution meets all these requirements, and he mentions also as adjuvants, increased hepatic activity and posture. Elevation of the foot of the bed sometimes a few inches tends to gravitate the fluids toward the diaphragm and leads to absorption. Six cases are reported illustrating these ideas, and while he says that these may not be of much statistical value they prove we can do without drainage in appendicitis. The general trend of surgery at the present time is to do without drainage, which is only essential in surgery of certain glands, ducts and cysts to remove irritating fluids, as in cases involving the stomach, spleen, pancreas, liver, gall-bladder and urinary bladder. The old maxim, "when in doubt, drain," is about, he thinks, to be revised to read, "when in doubt do not drain."

4. **Charity Methods.**—Spratling's summary of his article is given in the following propositions: 1. Prevent insanity, epilepsy, imbecility, idiocy and feeble-mindedness, as far as possible, by making it impossible for persons so afflicted to marry. 2. Build less expensive structures in which defective and dependent state charges shall live. 3. Maintain at less cost the cases that are chronic and incurable, and maintain at greater cost, to stimulate recovery, those that probably can be cured. 4. Give those that ought to have it an education that they can use, either in the institution that cares for them, that the cost of their maintenance can be lessened, or in the outer world, when they leave the institution, after the state has done its work well and turned them back into the great business current, as nearly normal men and women as science and art can recreate them.

5. **Myocardial Diseases.**—Cases and the associated conditions of the clinical picture of heart disease are noticed by Jackson; those for instance due to obstruction of circulation, embolism or thrombosis of the coronary arteries, inflammatory processes, atrophy, tumors, hypertrophy and dilatation which may be caused by valvular disease, diseases of the heart wall including chronic myocarditis and new growths, and from causes outside of the heart by pericardial adhesions, kidney and lung disorders, systemic poisonings, and overwork, as also from some causes as yet unknown or obscure. In arteriosclerosis we find as a rule much greater enlargement of the heart than in valvular disease.

6. **Cardiac Murmurs.**—The origin of cardiac murmurs from valvular disease has been over-estimated. Arnold discusses the subject at length. He thinks that mitral regurgitation may occur without any valvular disease whatever, and is inclined to believe that all the anemic murmurs of the left side of the heart are really due to mitral regurgitation. When any murmur exists it is of importance to investigate the myocardium. We may find it due to an entirely remediable condition of the cardiac muscle instead of an incurable valvular disease, hence the importance of investigating for other signs than murmurs alone.

9. **Venereal Diseases.**—The medical aspects of the social evil in New York are discussed by Morrow who notices the extent of its consequences and gives the noteworthy points. He has investigated the origin of syphilis in the syphilitic women in his hospital service during the past year. Fully 90 per cent. were married and, excluding all cases where there was suspected irregularity, there were 70 per cent. who appeared to

be cases of conjugal infection. The innocent victims of venereal diseases are not confined to marital relations; there are many other possibilities which he enumerates. He does not believe the regulation of the social evil according to the European methods is ever going to be practicable in this country. The methods he suggests are the hospital care of every case possible and a campaign of education.

10. **Sleep Disorders.**—Sleep is a period during which the brain rests from its consequent activities, empties itself of the products accumulated by this activity, and builds itself up for future work. Excessive sleep, Dana thinks, is like a flux in which too much is carried away, while insomnia is a constipation in which morbid products are retained. Insomnia is in itself often an overrated symptom. The majority of people can get along with perhaps one-half to one-third their usual amount of sleep if they rest quietly in bed, and, therefore, a certain loss of sleep is not necessarily damaging. He gives illustrations of the varieties of insomnia, morning insomnia from 3 o'clock on, connected with degenerative changes in the brain, worry or something of that sort, insomnia from motor shocks, epileptoid disturbances which the author does not consider is connected with genuine epilepsy. This, he thinks, is simply due to circulatory changes taking place in a rather over-tired, excitable cortex. The other symptoms of psychic shocks, apprehension, sensory shocks, etc., in neurasthenic cases, waking vertigo, migrainous seizures in sleep, paresthesia, painful dreams, epileptoid conditions, sleep-walking, etc., are also mentioned. Most of these symptoms occur in connection with such underlying conditions as neurasthenia, lithemia, arteriosclerosis, cardiac weakness, and a few can be ascribed to digestive disorders and a few perhaps to abortive forms of epilepsy. The treatment consists in attention to the underlying conditions, heart and general tonics, antilithemic remedies, attention to the general health; moderate exercise and fresh air are perhaps the best hypnotics. The safest medicinal agent, if any is to be used, is single small doses of bromid persistently kept up.

11. **Diabetes.**—The theory of diabetes and the general metabolic changes taking place in this disorder are discussed at length by Edsall, who is inclined to think that the cause of the disease is either through a loss of the normal power of destroying sugar or from a lack of normal power of producing glycogen and thereby controlling the amount of sugar supplied to the blood. Either of these theories will satisfactorily explain the condition. Apparently the imperfect glycogen production theory is the one most favored by the author. He quotes the experiments of Sachs, who found that extirpation of the liver in frogs did not alter the power of these animals to assimilate glucose but produced a strong tendency to alimentary levulosuria.

12. **The Brains of the Seguins.**—Spitzka's article gives a comparison of the brains of two distinguished physicians, the Seguins, father and son, and points out special features of each and those that are common to both, correlating these with their traits as exhibited during life. In each the left insula was markedly developed over the right, the left occipital index was smaller than the right and the left frontal larger. These and a number of other facts give strong evidence, he thinks, of direct hereditary transmission, but there was a curious fact of the reproduction of unilateral asymmetrical peculiarities of one side in the father's brain and on the other in the son's. The great development of the insula is striking and, according to Spitzka's view, seems to be connected with the special speech development and general power of expression exhibited by both possessors of the brains.

14.—This article is noticed editorially in THE JOURNAL of April 13.

18. **Digitalis.**—England questions the assertion made by Solomon, that digitoxin is the chief active principle of digitalis, on the ground of its slowness of action. While the fat free tincture made by him produces physiologic effects in from fifteen to sixty minutes, it takes from six to thirty-six hours to produce them with digitoxin.

19. **Comparative Pathology of Jews.**—In his concluding article Fishberg sums up the facts by stating that the death rates of the Jews are relatively and absolutely lower than those of other races. Their marriage and birth rates are smaller, but their low death rate causes a more rapid increase. They are especially free from many of the infectious diseases such as epidemic cholera, smallpox, and tuberculosis, and from syphilis and alcoholism with their consequences. On the other hand, they are especially liable to diabetes, functional neuroses and psychoses, though not to organic nervous diseases. The great majority of cases of amaurotic idiocy occur in Jewish children, and insanity is from two to five times more common than among the Christian population. Color-blindness, trachoma, glaucoma, hemorrhoids, hernias, varicose veins, etc., are very frequent among the Jews. Not all these peculiarities are due to ethnic, or racial characteristics of anatomy or physiology, but to the history and habits of life, and they are readily lost when the Jew adopts the customs and habits of those around him.

21. **Rectal Feeding.**—Bardes recommends rectal feeding in throat affections, reporting cases to show its success. Its advantages are, he thinks, non-irritation of the throat, avoidance of struggling in children, shortening of the progress of the disease, absence of the danger of food entering the larynx, the possibility of giving just such food and stimulation as desired, and the food is not bolted, as it is when swallowing is painful.

23. **The Relation of the Public to the Profession.**—Roosa's paper is a review of the advances that have been made in medical education and medical science generally in the past century.

24. **Aseptic Vaccination.**—The value of vaccination and the possible untoward complications are noticed by Kubin, who gives an extended series of cases obtained from the literature, by correspondence and by personal observation. He describes his method of aseptic vaccination, i. e., thoroughly scrubbing with soap, washing with alcohol and ether and again with sterilized water; then after scarifying and rubbing in the virus, he covers the wound with an aseptic gauze compress, fastening it with strips of adhesive plaster. His aseptic shield, which can be applied over the site of the vaccination, is also described. In conclusion he suggests laws for compulsory vaccination and revaccination, and special teachings as to the methods in medical schools and instruction in public schools on the importance of vaccination.

25. See abstract in THE JOURNAL of February 2, p. 343.

26. **Diabetes.**—The symptoms of diabetes and its method of diagnosis are first noticed. Stark considers the use of the yeast fermentation test and especially the differential density test of Roberts as the best for office work. The reduction tests by copper and bismuth have a certain negative value, that is, they prove that the urine which does not react is free from sugar, though they do not absolutely prove its presence. In quantitative estimation he specially mentions Rudisch's saccharometer. As regards prognosis a number of conditions must be taken into account: the age, power of assimilation of carbohydrates, early recognition of the disease, complications, the condition in life, state of the urine and power to assimilate fats and nitrogenous foods. All cases arrange themselves into one of three types from the prognostic standpoint: 1, the mild type where glucose disappears with gradual decrease of carbohydrates; 2, the intermediate type where it only disappears after complete exclusion of carbohydrates; 3, the severe type where this exclusion is unavailing.

27. **Deformities Due to Adenoids.**—These conditions are illustrated and described by Thompson, who accounts for them in a general way, assuming the defect to be caused by the lack of development due to important functions. He shows how the nose, mouth, thorax, ear, etc., may be thus impaired or deformed.

30.—See abstract in THE JOURNAL of April 6, p. 986.

31. **Diphtheria Antitoxin in Scarlatina.**—Some two years ago Dalton accidentally discovered that diphtheria antitoxin

was an excellent remedy in scarlet fever, and later investigations, he claims, have proven that it is equally efficient as a preventative. He has tried it in so many cases that he classes it as a sovereign remedy. He has used it in twenty-five or thirty cases since his first one, has immunized the other children in the family and has had no mortality whatever. He has been impressed by the mild form assumed after the use of antitoxin in a number of cases after running a severe course. See also title 94.

34. **Clubfoot.**—Phelps argues against trusting orthopedic measures in the treatment of clubfoot, excepting when employed early in life, and then favors simply the use of the hands. The method that he proposes is given as follows: 1. Exclude all cases which, by manipulation or force, can immediately or in a reasonable length of time, says a few weeks, be cured; then the following rule should be followed: 2. Cut the contracted parts as they first offer resistance, cutting in the order of those parts which first contracted when the deformity was produced, beginning with the tendo Achillis open. 3. The shortened inner side of the foot and short skin indicates the operation. The operator will then proceed, after strong manipulation or force is applied with a clubfoot machine or with the hands, to divide subcutaneously, first the tendo Achillis. If the skin is not short, subcutaneous tenotomy in the sole of the foot will usually suffice. If the skin is short an open incision about one-fourth the distance across the foot should be made, beginning directly in front of the inner malleolus, and carrying down to the inner side of the astragalus. Through this incision the following tissues can be cut, if they offer strong resistance, in the order given: Tenotomy of tibialis posticus; division of abductor pollicis; division of plantar fascia through the wound; division of flexor brevis muscle; division of long flexors; division of deltoid ligament, all its branches; peroneus longus—posterior ligament. 4. Linear osteotomy through the neck of the astragalus. 5. Resection of a wedgeshaped piece of bone from the body of the os calcis, the point meeting the linear osteotomy through the neck of the astragalus. The foot will now swing to a straight position. (This paper is to be continued.)

36. **Pyloric Carcinoma.**—The case reported by Billings, which was successfully operated on, was in a young man, aged 28, and interesting otherwise by the presence of much HCl. in the stomach, in excess of what is usually the amount in this disease and the fact that perforation occurred with an opening the size of a lead pencil without producing serious disturbance or discomfort. The operation was hastily made at night, but recovery was good, though subsequent involvement of other abdominal organs has apparently occurred.

37. **Puerperal Sepsis.**—The prevention of puerperal sepsis by proper aseptic precautions on the part of the physician and the nurse before, during, and after labor is insisted on by Montgomery and the treatment recommended by him summarized as follows: 1. Prevention by the exercise of the most careful asepsis and antisepsis. 2. The accurate study of each puerperal case to recognize the cause of high temperature and eliminate other factors than sepsis. 3. The maintenance of the vital forces and the promotion of elimination by the administration of diet and remedies to meet indications. 4. The employment of serum injections when streptococcic infection can be recognized or justifiably inferred. 5. Resort to operative procedures must be governed by the local manifestations. Curettement is rarely justifiable in pure sepsis. Peritonitis or localized cellular inflammation in the pelvis should indicate vaginal incision and drainage. Hysterectomy is indicated whenever the uterus can be recognized as the seat of localized collections. When the ovary or tube only is involved, it should be removed. The recognition of a pus collection should indicate its evacuation or the extirpation of the organ in which it is situated. 6. The continuance of symptoms of sepsis when local manifestations are not recognized will justify incision to determine the presence of secondary sources of infection.

40. **Insanity.**—Insanity is a relative condition and MacDonald, therefore, dwells on the importance of comparing the patient with his normal self, when making the diagnosis. The various symptoms are mentioned, both physical and mental, and he remarks that the range of normal mental action is so wide that a person ought not to be called insane unless there is a prolonged departure from his normal mental self. The diagnosis from severe physical illness should be carefully made, as meningitis, delirium tremens, etc., have sometimes led to mistakes. The two most frequent prodromes are insomnia and constipation. The importance of relieving these, especially the insomnia when associated with any mental symptoms whatever, is insisted upon.

42. **Balantidium Coli (Stein).**—Strong and Musgrave report a case which came under their observation suffering from diarrhea, constantly becoming aggravated and finally uncontrollable, and extreme emaciation, relative increase in eosinophiles in the blood and the presence of flagellate infusoria in the stools. At the necropsy there was considerable evidence of inflammation in the jejunum and ileum, shallow ulcerations, presence of Balantidium coli in the intestinal coats and lymph follicles, etc. Although certain authors have expressed the belief that the parasite is only an accidental and unimportant complication, the writers agree with Henschen as to its pathologic importance and consider it the exciting cause of the conditions found.

44. **Bence Jones's Albumosuria.**—In the first case reported the urinary reaction was acid; the urine was pale and of low specific gravity, gave a wide range of Heller's test and heavy precipitates when heated, clearing up on boiling and on the addition of acetic acid. A precipitate appeared with nitric acid, which dissolved again on boiling and reappeared with cooling; proteid contents of .27 per cent. and biuret reaction in cases where found. The examination of the urine sufficed to make the probable diagnosis of myeloma. The patient suffered from tenderness of the bones, nausea, loss of weight, etc. In the second case the urine was in a general way similar to the first, the proteid contents still greater, and there were some hyaline casts present. Hamburger gives the history of Bence Jones's albumosuria and describes the myelomata which have been found in the cases. He reports in full also the history of Kahler's case as illustrating the disease. He knows of but one other condition which can be diagnosed from urinary examination, and that is the widespread destruction of liver substance characterized by the presence of leucin and tyrosin in the urine.

51. **Malarial Parasitology.**—Ewing's article reviews the technique of examination of the general morphology of the parasites of malaria, and discusses the question of plurality of species in the estivo-autumnal group, studying specially their structure. He describes a form of conjugation of the tertian organism, and concludes by saying that whatever theory will finally be established regarding the variety of human malarial parasites, the evidence would seem to justify the opinion of Kruse, Canalis, Babes, Celli, Danilewsky, and others who regard the existence of several species as not yet proven, and find not only in malarial parasitology, but especially from comparative biology, that the phenomena of the disease are more easily reconciled with the existence of a single polymorphous species. He thinks that in many ways the knowledge of this would be furthered by adherence to a unicist theory as a practical working basis.

52. **Nerves of the Capillaries.**—The conclusions of Sihler's article in substance are as follows: 1. The endings of the motor nerves in striped muscle remain on the outside of the sarcolemma. Aside from the surfaces of contact of muscle and nerve fiber, the end fibers are covered down to their tips with the sheath of Schwann and provided with nuclei. The precise condition of things at the places of contact of nerve and muscles is as yet an unsolved problem. 2. The ivy-like or festooned arrangement of motor nerves in the frog's muscle has been misinterpreted. Properly interpreted it demonstrates that the nerve fibers which influence the muscle fibers are not naked and that they need not be end fibers. Mere contact between muscle fiber and nerve fiber is all that is needed. 3. The sheath of Henle in the frog and in the smaller muscle fibers of the snake is open, permitting escape of the cerebrospinal fluid. 4. In

other animals Henle's sheath extends over the end fibers of the motor nerves and cells lining it envelop the end fibers. The so-called *Sohlensubstanz* of Kühne is derived from the cells of Henle's sheath. 5. The terminal fibers in smooth muscle form a network entwining the bundles. The author considers it improbable that each plain muscle fiber has a special nerve fibril. 6. In muscular tissue fine non-medullated nerves, probably belonging to the centrifugal, vasomotor system, proceed from fasciculi of motor nerves, and can be traced directly to a network surrounding the capillaries. From this network fine, nucleated, nerve fibers pass to the walls of the capillaries to which they are closely united. 7. The nerves supplying the capillaries connect also with sensory nerves, these nerves surrounding the larger arteries and veins. 8. The branches of the chorda tympani in the submaxillary gland terminate on the capillaries, not in the gland cells. 9. In muscular and glandular tissues—and perhaps throughout the body—there is a vast peripheral nervous plexus. These nerves of the capillaries, which may perhaps be regarded as nutritive nerves, regulate the production and transudation of lymph and are concerned in glandular secretion. These can be called into activity by peripheral and central nervous influences and from the sympathetic ganglia and influence, through their connection with these vasomotor nerves on the vessels, the blood supply of a part.

53. **Bile and Metabolism.**—The conclusions of Joslin's article are that bile increases the digestion of fat when given in pill form. The percentage of fat lost in the stools of the patient (who had a biliary fistula allowing collection of bile) was 63 per cent. in the first and 57 per cent. in the third periods of the experiment when bile was not given. This corresponds closely with Muller's results in human beings and dogs with complete obstruction of the common duct. Under bile medication the stools contain 23 per cent. less than found in the first period, and 17 per cent. less than in the third, representing the actual diminution in the amount lost in the stools. In other words the average digestion of fat in the periods without bile was 40 per cent. and with bile 60 per cent. 2. The digestion of nitrogenous food is improved by the use of bile pills when the fat is excessive in the stools. Instead of the average 15 per cent. being lost, 7 per cent. escaped digestion during the four days the patient took bile. This is perhaps accounted for by the better digestion of fat at this time allowing the proteid elements to be more thoroughly exposed to digestive juices. 3. Ox bile is a cholagogue. The amount of bile-solids secreted in the bile period was 47 per cent. greater than in the period before and after. This confirms the work of other investigators. 4. The effect of bile on the bowels was not remarkable, yet they moved more satisfactorily. In dogs diarrhea was usually produced. Pfaff finds it variable in patients; in some it is laxative, in others it has the opposite effect. 5. It is observed that the urea and nitrogen was excreted in greater amount in the bile period than in either of the others. No definite conclusions, however, can be drawn, because more nitrogen was ingested during the four days and the salol given may have been a factor. 6. The urine was increased more than 50 per cent. during the bile period, and the amount was about the same as when the bile was taking its natural course. Von Noorden has recorded a similar increase following removal of the obstruction in acute catarrhal jaundice. The salol coating on the bile pills, which amounted to 1.25 grams, was not sufficient to account for this fact.

54. **The Islands of Langerhans.**—In a previous number of this journal Opie described the alterations in these structures in the various forms of chronic interstitial pancreatitis and discussed the relations of these lesions to diabetes. He has recently had the opportunity of studying the specimens from a case of diabetes in which the causal relation between these bodies and the disease was more clearly demonstrable. These were the seat of a degeneration which had left unaltered the secreting parenchyma of the gland. The history of the case, with microscopic findings and the staining reactions, is discussed in detail, and it forms a very striking illustration of the connection of these bodies with the disease found in them, and supports the inference from preceding cases since here only the islands of Langerhans were involved. The conclusion is justified that these structures influence carbohydrate metabolism and what has been learned concerning the relation of the pancreas to diabetes is the relation of the islands of Langerhans to the disease.

55.—**Ovarian Hydrocele.**—Three cases bearing on the question of ovarian hydrocele are reported by Burns. The anatomical conditions are described. He thinks that they support the view of J. Bland Sutton that the so-called tubo-ovarian cysts are cases in which the ovary and distal end of the tube have been shut in by adhesions into an unusually deep ovarian fossa and the space so formed and its connecting tube have become distended with fluid. They are not strictly ovarian hydroceles, but this term is used, nor are they tubo-ovarian cysts. In operating, if we find the condition the better course is, he thinks, to throw a ligature around the tissues containing the ovarian artery on the pelvic side and another around the artery and tubes close to the uterus, then split the tissues over the ovary and remove it and the tube. Mass ligatures around the ligament containing the ovary are hazardous, being liable to include the ureter.

63. **Retinal Glioma.**—The methods of invasion of glioma of the retina, as described by Snydacker, are stated as follows: 1. The commonest method of invasion is for the tumor cells to force their way through the interspaces of the lamina cribrosa, into the nerve-fiber bundles, to follow these backward, invading them and substituting glioma cells in their place. 2. The perivascular spaces of the central vessels also afford a means of ingress for the tumor cells. The tumor pushes its way in alongside the vessels, and then the cells radiate outward in the stroma of the nerve exactly as the anatomy of the parts would lead us to expect, for the septa are connected with the vessel sheaths, radiating outward and forming the sustentacular framework of the nerve. 3. The cells, after infiltrating the nerve-fibers through the lamina cribrosa, invade the pial sheath, fill the intervaginal sheath, run backward and reinvade the nerve, mainly along the septa. 4. The cells invade the choroid, then follow the course of the posterior ciliary vessels and nerves. In this manner they may invade the dural sheath in one of two ways: they may force their way between the fiber bundles of the sclera and thence into the dural sheath and intervaginal space, or they may make their way into the retrobulbar space and from here invade the dural sheath. 5. The glioma cells follow the course of the venæ vorticosæ and from here follow the lymph channels into the supravaginal space and infiltrate the nerve sheaths. 6. Tumor perforates the ball and invades the nerve from the orbit.

64. **Ulcus Rodens Corneæ.**—This rather rare condition is described by Schmidt-Rimpler who reports a case. The disease commences as a narrow extended ulcer along the corneal margin. It differs entirely from ulcus serpens which usually begins at the center and progresses toward the periphery. It might be more readily confounded with shallow marginal ulcers seen in old people, but the periphery does not heal with new formation of vessels and thickening of the tissues while the ulcer extends centrally. Moreover, these ulcers have not the undermined gray margin and they are more transparent. There is a particular form of marginal ulcer, which he has called in his text-book chronic peripheric furrow keratitis, which might be confounded in the beginning with ulcus rodens and is the probable cause of some cases reported cured of the latter, but it never extends centrally as does ulcus rodens. The etiology of rodent ulcer is uncertain. He rejects the view of Ahlstrom and others that it may be due to anesthesia of the corneal nerves. The most rational treatment, he thinks, is cauterization and scraping, and possibly covering the ulcer with conjunctiva, though one can not always expect good results.

65. **Posterior Sclerotomy.**—Tobler's conclusions are summed up as follows: 1. The meridional sclerotomy gapes more and bleeds less than the equatorial and hence is preferable to the latter. 2. In the living eye a posterior sclerotomy does not give rise to a current from the subconjunctival space into the interior of the eye, but this occurs in the dead eye. 3.

After a posterior sclerotomy a centrifugal current arises, passing from the interior of the eye through the section into the subconjunctival space. 4. The liquid which escapes through the wound is watery and contents salt. 5. The wound may be expected to close by the eighth day, under normal circumstances.

66. Unilateral **Nystagmus.**—The cases reported by Neustaetter show that unilateral nystagmus may appear in all varieties assumed by the bilateral nystagmus, and he is of the opinion that it is not to be distinguished as regards its nature from this. The transference of nystagmus from one eye to the other indicates in his mind that we should consider it indicating nothing more than a modified bilateral nystagmus.

70. Closure of Incision in Abdominal Section.—Bovee describes his technique in closing incisions in abdominal sections and herniotomy, which is essentially the use of abdominal sutures in tiers somewhat on the plan of Marey's method elaborated. He found kangaroo tendon and catgut to be the best. Thorough asepsis is practiced and five or six tiers at least are employed. The dressing is composed of several thicknesses of gauze soaked in flexible collodion in all but the upper and lower layers. A well-fitting bandage over all completes the dressing, which is undisturbed for twelve to fifteen days. The advantages which he claims for it are that it leaves no injured tissue to slough, produces firm and rapid union, dressing is cheap and comfortable, and needs no changing, the exposure to infection is almost *nil*, the bandages afford proper support to the abdominal wall, and the resulting scar is excellent. He has used his method forty-five times without a single bad result, and in five years he has seen but one hernia result from the use of this method with a somewhat less perfect technique during most of the time.

71. The **Spray in the Local Treatment of Gonorrheal Diseases.**—Wood has been dissatisfied with the swab and tampon processes, and has experimented with the spray in local treatment. He calls attention to its advantages

80.—This article was abstracted in THE JOURNAL of March 16, p. 773.

81. **Relation of the Appendix to the Psoas Muscle.**—Robinson describes the relation of the appendix to the psoas muscle in 118 autopsies on females and 300 on males, giving an elaborate summary of the conditions.

82. **Skiagraph Detection of Calculi.**—From an examination of 136 cases of calculi, the detection of 19 cases of ureteral and 17 cases of renal calculi, Leonard concludes that both negative and positive diagnoses by the Roentgen method are accurate and valuable; that the ureteral calculus is more common than has been supposed, amounting to about 50 per cent. of all, and that the non-operative treatment without negative diagnosis by this method is irrational. It is precise, but accurate reading of the results are necessary. In case of small calculi low down in the ureter non-operative treatment can be permitted. Negative diagnosis does not preclude exploratory nephrectomy, but it makes unnecessary the actual incision into the kidney in search for calculi. Dilatation of ureter with bougies, as has been practiced in the female, may be employed in the male, by utilizing a suprapubic cystotomy wound to guide the instrument.

83. Ileus **from Vascular Obstruction.**—McArthur describes a case of ileus due to cutting off of the circulation of the coats of the bowels. He gives the four most constant symptoms of ileus caused by mesenteric embolism or thrombosis: 1. Blood seen either in the washings from the bowel, in bowel movements and in the vomitus, unaccompanied by the tumor of intussusception. 2. Colicky-like pains, associated with pains in the back and lumbar region. 3. Early collapse if the embolism has been sudden or extensive. 4. Cardiac disturbance, arythmia, great frequency, albuminuria.

91. Fatty **Degeneration of the Heart.**—Fatty degeneration of the heart, according to Satterthwaite, is a common affection, though it is not to be classed as a disease *sui generis*. It is rather a process attending lack of compensation in valvular disease, and also occurring in other conditions. It is caused by fevers, toxemia, dyscrasias, mechanical injuries, disorders of nutrition and may be a physiologic process of senility or after parturition. He divides it into three stages, early, intermediate, fatal, each being distinguished by certain clinical signs. In the early stage the prognosis is best for complete recovery. In the intermediate it is not good for complete arrest, but the patient may be so far improved as to enjoy a higher degree of health for an indefinite period. In the third or final stage the prognosis is always unfavorable.

94.—See also ¶31.

110. **Pneuma-Massage.**—The method of pneuma-massage is described. The apparatus consists of a small motor, massage pump and a set of cups. The pump has three valvular actions: 1. Pressure, which forces a column of air against the part, like the tapping of a hammer; it has an almost human touch of great delicacy. 2. An alternating current that gives a vibratory effect, shaking the skin up and down from 250 to 10,000 times per minute, depending on the speed of the motor. 3. That of suction or dry cupping. The extent and duration of the vacuum is under the control of the operator, who can constantly relieve the pressure by raising his finger even when the motor is at its maximum speed.

114. **Under Average Risks.**—Poels remarks on the ignorance of the experience of American physicians by European practitioners, and asks for co-operation in changing this. He thinks that insurance companies may possibly do injustice by too rigid rules and thinks we have striking examples among those now issued as impaired or under-average lives, of the feasibility of the plan of using a more liberal policy in regard to admission to insurance. He asks whether certain cardiac diseases are now to be regarded as proof of sudden or premature death? Shall the non-fatality of heredity be forever denied? Are we not now in possession of data showing the comparative harmlessness of certain hereditary tendencies or personal defects? He believes that many risks are unjustly declined by insurance companies, causing financial loss to them, and resentment on the part of the examined.

115. **Mitral Stenosis.**—After describing the etiologic factors, diagnosis, etc., Moss notices three points in the investigation of the heart which should be attended to in every examination: "1. Remembering that the thrill and murmur are often perceptible in a very limited area only, auscultation should be practiced not alone over the area for the four valves, but over the whole precordia as well. 2. Palpation should be made not only at the apex, but to the right of it also. 3. Percussion should always look for extension of the area of cardiac dulness upward and to the right. In employing these three procedures as a matter of routine, cases will be discovered that might otherwise escape detection." He also calls special attention to a sure and rapid method of determining any abnormality in the vertical extent of cardiac dulness which, so far as he knows, is original with Dr. J. Wilson Shiels, of San Francisco. "It consists in placing the third, second and first fingers of the left hand upon the third, fourth and fifth interspaces respectively. The divergence of the fingers will usually be found to correspond so well with the divergence of the ribs that the fingers will lie evenly in the spaces. Now striking the fingers from above downward, we normally obtain three notes of distinctly different quality, due respectively to lung tissue alone, to heart and lung, and to heart alone. Any variation from the normal will at once attract attention, and its cause may be sought by the usual methods."

116. **Arteriosclerosis.**—The significance of arteriosclerosis to life risks is discussed by Mahillon, who thinks that in the majority of cases its existence with antecedent heredity or history is a matter of serious importance and, with a history of gouty or rheumatic diathesis added, makes the gravest risks. The habits of the patient should always be taken into consideration, especially those who drink, the occupation, such as the liquor and tobacco business especially. All gouty and rheumatic applicants for insurance, who have passed their 40th year and have rigid arteries or disorders of the heart function, history of angina pectoris or who use tobacco to excess should

be rejected. Where indications of arteriosclerosis are only slight and heredity is good, the heart and kidneys free from lesions and the habits in all respects exceptionally good, the cases may be accepted.

117. **Deaths by Lightning.**—Abbott finds that in Massachusetts, during the last fifty-seven years, there have been 185 deaths from lightning. A lightning stroke is not always fatal and many persons have been injured only. The majority of the victims were men, i. e., 129. The greatest number occurred in the summer months. In about one-half, death occurred in persons from 15 to 40 years of age and only 4 were in children under 5 years of age. This is due to males and young adults taking the greatest risks. He finds also, by examining the census reports, that death by lightning is more frequent in states which lie along the base of the Rockies, and in heavily timbered regions of the Northwest, than in the North Atlantic Coast region.

118. **Cremation.**—Hoffman pleads for precautions before giving permits for cremation, and especial care on the part of physicians in giving a certificate of the cause of death where cremation is to be performed.

134.—This article has appeared elsewhere. See THE JOURNAL of April 6, title 41, p. 991.

136. **Heroin.**—After giving his experience with the drug Keown says that the properties of heroin and heroin hydrochlorid are sedative and analgesic, hypnotic and antispasmodic, and it is much to be preferred to morphia, because it leaves no depression, is not followed by nausea, whether taken before or after meals, while heroin hydrochlorid agrees very well with all stomachs.

138.—This article has appeared elsewhere. See THE JOURNAL of April 6, title 41, p. 991.

139.—Ibid., ¶38, p. 994.

141.—Ibid., ¶39, p. 994.

FOREIGN.

British Medical Journal, March 30.

Some Clinical Aspects of Chronic Bright's Disease. ALFRED G. BARRS.—The pathologic distinctions of the different forms of Bright's disease are not specially valued for clinical purposes by Barrs. The real question is, in his opinion, whether the condition is chronic or acute. Statements as to the prevalence and duration of life in the different forms of renal diseases are likewise considered of no weight in determining the dangers and management of any given case. The indications for treatment and prognosis depend entirely on the effects the disease has had and is having on the general health and vital functions, and are determined by conditions existing at the moment. As regards the etiology, he doubts the causative relation of acute Bright's disease to the chronic forms. Acute cases usually end in recovery or death. The average chronic case arises without any history of what could be regarded as an acute attack. As to how they arise is one of the most difficult questions to answer—the natural suggestion would be infection. He does not even credit alcohol as being a common cause and, as regards gout, he considers the relation quite as often the reverse, gout being the result of renal disease. The recognition of chronic renal disease is not always easy and only one point is of value, viz., albuminuria. He has never seen a case of albuminuric retinitis, the only distinguishing sign which could be presented, without the coexisting presence of albumin in the urine. The statement that chronic Bright's disease can exist without albuminuria he believes arose entirely in the postmortem room; it can not be diagnosed during life. While the presence of albumin is of the greatest importance, its quantitative estimation is of no value whatever and the estimation of urea is likewise unimportant. Urines of low specific gravity without albumin are said to indicate chronic Bright's disease, but this is not a reliable indication, and as regards tube-casts, he thinks no urine that does not contain albumin need be searched for them. The cardiovascular changes are not so uniformly inevitable or so common as ordinarily supposed, and recognizable high blood tension is not the rule. The danger is in the falling, not in the increasing, blood pressure in chronic renal disease. Arteriosclerosis altogether independent of renal affections is a more common cause of cardiac hypertrophy than Bright's disease, and vascular disease of this nature is probably a cause as well as result of renal disorders. It is also the real cause of cerebral hemorrhage that is so often attributed to kidney trouble. The really fatal symptom of Bright's disease is toxemia. As regards the diet, he objects to the purely milk diet. He thinks it has no marked advantages, and his rule is that if the bowels and kidneys are moving freely the patient may live on such ordinary mixtures of diet, including meat, as he has appetite for and as are digested. The distinctions we draw between the different kinds of meat, in treating cases of gout, are in his opinion ridiculous. Alcohol may be avoided if cardiac failure does not require it. As to the drugs, he has no great faith in anything except the systematic use of purgatives for the general treatment, and beyond that no drugs are necessary except for the special symptoms as they arise. Barrs does not place much reliance on the so-called vicarious action of organs. Diuretics, such as digitalis, may be of use, but almost as frequently fail. Diaphoretic drugs like pilocarpin are sometimes unpleasant not to say dangerous in their effects. Hot baths, and hot-air baths which are directly under our control will do all that can reasonably be done. Nervous and respiratory disturbances of the more severe degree of renal toxemia will tax our therapeutic resources to the utmost. They generally also indicate portending death. The old practical rule that opium and morphin should not be given is still one to be considered in most cases, but there are respiratory and mental disturbances in which morphin alone relieves and for which it may be given with safety. He thinks in a certain kind of wakeful, painful, non-soporific form of uremia morphin is of the greatest value, and if care is exercised can be used without harm. The contraindication is that which common sense would suggest, viz., the presence of any tendency to coma.

On Generalized Infection in Gonorrhea. ARTHUR H. WARD.—The proposition offered in this paper is that the gonococcus produces an irritating toxin which is the direct cause of all the symptoms of the disease. In all cases it is absorbed into the system and causes systemic degeneration of varying severity. Gonorrhea, is therefore, a general toxic affection, while the microbes which form the toxins are generally localized on or around a mucous tract. The microbic invasion may extend to organs connecting with the infected tract, or may penetrate into the tissues either by direct invasion as by infection or penetration through the uterus, through the Fallopian tubes or by processes of growth through the affected mucosa. The absorbed toxins paralyze the leucocytes and prevent their action on the microbes. Having reached the circulation, the gonococcus may invade the heart or be carried into the peripheral capillaries. Invasion is favored by too energetic measures directed to local infection, since they depress the local powers of resistance and, by abrading or lacerating the mucous surface, may practically open a door to invasion. The general treatment must vary according to the general conditions, and will differ as these are referred to toxemia alone or to toxemia complicated by metastases. Local treatment is always required and should be without violence of any kind. These ideas are amplified to some extent. The existence of the toxin has been demonstrated by De Christmas and others. The larger the areas of microbic growth, the greater the quantity of toxins that may be developed and absorbed, and Ward holds that local inflammation is the direct evidence of toxic absorption. In prolonged gonorrhea severe general toxemia may occur in persons debilitated by drink and other causes. In the female the interior of the body may be invaded by direct extension through the uterus and Fallopian tubes. Ward thinks that diffuse peritonitis may be due to this cause, though it is either rare or unrecognized. The lymphatics, glands and the general circulation may be invaded and severe symptoms are produced when the heart is involved. As regards the treatment of metastases of gonococcus by drugs, the author says the less said about it perhaps the better. Internal treatment by a drug of the germicide class is probably indicated. Quinin holds out

the best hope of relief, though if it fails it is well to try mercury, arsenic or salicylates. When, on the other hand, toxic degeneration is threatening, a careful treatment directed to oxidation and elimination, such as potassium iodid internally, large quantities of water, baths, exercises, change of air, etc., will be of most service. He also calls special attention to the dangers of too energetic measures addressed to local infection, and gives an illustrative case in which there was a general infection due, he thinks, to a too active treatment in the acute stage. It pointed out to him the danger of favoring the generalization of gonococci by too energetic measures, causing abrasions or injury of the mucous surface. Since that he has not allowed any instrument to be passed in the acute stage, nor has he employed high pressure injections or abortive antiseptics.

On the **Treatment of Glycosuria and Diabetes Mellitus with Sodium Salicylate.** R. T. WILLIAMSON.—Sodium salicylate has been strongly recommended for diabetes, by Ebstein of Göttingen, though it has apparently not been much prescribed in England. Williamson has been testing it recently on a patient, covering a period of twenty-two weeks, during which time he estimated the sugar excretion, with results that seemed to him proof that sodium salicylate had in this case a definite influence in greatly diminishing the sugar excreted. He has also tried it in nineteen other cases, but as only one of these was in the hospital, the results are less reliable. In most cases the diet was restricted at the same time the sodium salicylate was given. A brief statement of some of the cases is recorded. He says he does not think it advisable to give sodium salicylate if serious complications are present or if the patient appears to be losing ground rapidly, because the drug has a bad reputation with some and a fatal termination during the treatment might be attributed to it. He says it is not a specific and it does not usually have a marked effect on the severe forms, but in certain mild cases it is indicated. It is not suitable in all cases, and when administered needs to be carefully watched and fairly large doses are usually necessary to produce decided results. The natural sodium salicylate is more satisfactory than the common artificial preparation. It is best to commence with 10 gr. doses three to four times a day, and increase it up to 15 gr. four or five times a day, watching carefully for any toxic symptoms. In the severe forms, though sodium salicylate does not usually cause much change in the sugar excretion, the patient sometimes gains in weight and improves in general condition.

Journal of Tropical Medicine, March 15.

Some **Notes on Blackwater Fever, More Especially in Regard to Its Causation and Treatment.** R. U. MOFFAT.—The author rejects the quinin theory from his own experience, and also the idea that blackwater fever is a specific disease or condition of independent of malaria. His opinion is: "Blackwater fever is a complication of malaria only produced when the blood glands have lost their normal regenerating power, either through the influence of malaria or any other constitutional cause. It is then caused by a chill acting on the surface of the body when the malarial parasites are in active development some hours before their sporulation. The effect of the chill is to cause a determination of the parasites to the deeper organs at a time when they should be in the peripheral circulation, and as a result sporulation takes place prematurely and there is a sudden death of all parasitic-bearing corpuscles." The latter part of his theory, dealing with the manner in which the chill acts, is pure speculation, he admits, though there are facts to support it. In regard to the main point, the influence of a chill at a certain stage, his opinion is based on such practical experience so often repeated that it is impossible to regard it as coincidence. In one case he had examined the blood immediately before the attack and found it swarming with parasites. The next morning after the attack he could not find a trace of them. For some reason the parasites disappear directly hemoglobinuria ensues whether quinin be given or not. He thinks the brood, the sporulation of which produces blackwater fever, aborts at once and the condition tends to spontaneous cure. He has been careful to avoid leaving his bed until the temperature is normal in case of malaria, and therefore has generally escaped blackwater fever. In one case where medical duties made him violate this rule his fears were realized; the chilling of the body surface brought on the disease. For the treatment, he believes quinin, 5 gr. three times a day, is a good prophylactic. If malaria develops in spite of this the greatest care should be taken to avoid chills. The patient should go to bed at once if possible. The question whether we shall or shall not give quinin arises. He has himself given it with so much success that he dare not take the risk of experimenting without it. Owing to the gastric irritability the quinin, and in fact all medicaments, must be administered hypodermically or per rectum. He prefers the former because we require the rectum for the purpose of alimentation in these cases, and to favor elimination of free hemoglobinuria as quickly as possible, and prevent blocking of the kidney tubules, he encourages the patient to drink freely of bland liquids to flush the kidneys. It is true that vomiting is produced, but still a certain amount of fluid is absorbed and the vomiting would occur anyway, and it is good to have something to vomit. He offers his theory of the disorder as a provisional working one which in his opinion best meets the requirements.

Annales de Dermatologie (Paris), February.

Study of True Pemphigus. C. AUDRY.—A typical case of pure, chronic pemphigus was made the subject of special research in respect to the alterations in skin, blood and urine. The leucocytosis, the adenopathy and marked disturbance in the urinary interchanges, demonstrate that nothing in the organism escapes altogether the action of the still-unknown poison which causes the disease. The blister may develop between the horny layer and the granular layers, or between the rete mucosum and the basal cylinder layer. It may likewise cause the total denudation of the papillæ by lifting up the epithelium or by secondary destruction of the epithelial elements which cover the papillæ. Small collections may also originate in the rete Malpighii. All these various forms were observed in this case, but the relative integrity of the subepithelial connective tissue was remarkable and also the absolute and paradoxical integrity of the prickle cells. These facts suggest that the epithelial and cutaneous lesions are secondary, and derived from some more general cause. The blister can develop only in case of pre-existing alterations in the epidermis, and it has no more significance in pemphigus than râles in pneumonia.

Antagonism Between the Skin and Buccal Mucosa in Syphilis. A. RENAULT.—In a large number of cases, fully 75 per cent., the cutaneous manifestations of secondary syphilis are not accompanied by lesions in the bucco-pharyngeal mucous membrane. A dozen cases are described as illustration of this antagonism, and Renault observes that we are justified in promising patients with a confluent, papulous syphilide, that the lips, tongue and throat will not be affected. The facts also demonstrate that inveterate smokers need not at once stop smoking, but may break off gradually—smoking is always deleterious in secondary syphilis, immediate total suppression is not necessary under these circumstances.

"A Woman Who Has Borne a Child to a Syphilitic Husband Is Necessarily Syphilized."—Besnier advanced this proposition at a meeting of the French Society of Dermatology, acknowledging that it was an exaggerated statement, but insisting that it is true in many more cases than is generally recognized, especially in those in which the husband's infection dates from only two or three years. The necessity of collecting data on the subject was emphasized, in order to discover the laws governing the phenomena in question.

Radiodermatitis or Actinocutitis from the X-Rays. BARTHELEMY.—A case of injury from X-rays is described, a sclerodermization of great extent, the skin smooth, white, elastic, thick, with occasional purpuric patches and absence of the usual glands or cells. It is peculiar from the fact that the first signs of injury did not appear until five months after the last exposure to the rays. Barthélemy is now engaged on a monograph containing the reports of ten unpublished cases of cutaneous lesions produced by the application of the X-rays

as a revulsive measure in cases of salpingitis or perimetritis. New tubes and particularly vulnerable portions of the integument should be avoided, he observes, and it is still premature to introduce radiotherapy into current practice. Accidents are liable to occur when least anticipated in spite of all precautions. The physician, however, should not be held responsible any more than for a death during chloroform narcosis, when all the rules of science have been complied with.

Archives Generales de Medecine (Paris), March.

Plants in the Transmission of Malaria. VICENTE.—The mosquito is not the only insect which transmits and inoculates malaria, according to Vicente. He has observed cases in which the transmitting agent seemed to be the plant lice that infest oleanders, palms and certain other house plants. He is convinced that the pollen of plants floating in the air may also transmit the germs, and that the parasite of malaria loses its virulence in time, but reacquires it when restored to a marsh or to conditions approximating a marsh, such as are afforded by the dirt, moisture and heat of house plants. Insects and pollen may be the intermediate conveyance to and from the marsh. He has previously reported a strange house epidemic of malarial infection, in the midst of Paris, traced directly to a large oleander, and which broke out afresh whenever the plant was brought into the house.

Bulletin de l'Academie de Medecine (Paris), March 12.

Helminths as a Cause of Appendicitis. E. METCHNIKOFF.—Physicians make a great mistake, Metchnikoff asserts, in not examining the feces as a routine measure, as they examine the blood and urine. He relates four instances in detail in which recurrent appendicitis apparently necessitated operation, but investigation of the feces at the last moment disclosed the presence of eggs of intestinal worms. Vermifuge treatment promptly cured the patient and there has been no recurrence during the years since. Helminths explain the occurrence of "familial appendicitis," and also the cases of supposed appendicitis in which the appendix is found normal. He concludes that no physician should neglect to examine the feces in cases of suspected appendicitis, and to administer santonin if ascarides are found and thymol in case of the trichocephalus. Persons inclined to appendicitis should refrain from eating raw vegetables or fruits or drinking impure water. The feces of children should be examined from time to time and vermifuges given as needed. These measures would cure many cases of appendicitis, attenuate the gravity of others and diminish the frequency of the affection. The trichocephalus burrows its head in the mucosa and may mechanically induce irritation. One male worm of this kind might induce appendicitis and yet no eggs be found in the feces.

March 19.

The Conditions and the Diagnosis of the Soil on Which Pulmonary Tuberculosis Develops. A. ROBIN and M. BINET.—In 1300 tests of the chemistry of respiration in 392 persons, it was found that in all but 8 per cent. of the 162 tuberculous patients included, the exchanges of gases in respiration were far more active than in healthy persons. Even in this small proportion, the exception to the rule was but transient in the majority. The results of the researches are tabulated and the averages show that in chronic tuberculosis the carbon dioxid exhaled per minute and per kilogram of body weight, is in women 86 per cent. more than in normal conditions, and in men 64 per cent. The total oxygen consumed increases in women by 100.5 per cent., and in men by 70 per cent. The oxygen not utilized in producing carbon dioxid and which is absorbed by the tissues, increases in women by 162.8 per cent. and in men by 94.8 per cent. The lung ventilation increases by 110 per cent. in women, and by 80.5 per cent. in men. This remarkable increase in the exchanges of gases exists also in the acute forms of tuberculosis and its importance in the diagnosis can not be overestimated. As the disease progressses and the lung capacity and the proportion of gases exchanged diminish, the ventilation increases in proportion and thus the excessive activity of the exchanges is maintained to the very last. As the disease yields to treatment and the patient is recovering, this peculiar chemistry of the respiration becomes less and less pronounced. Extrapulmonary manifestations of tuberculosis are accompanied by an exaggeration of the respiratory exchange of gases, but the lung capacity and the proportions of gases remain approximately normal. In tubercular meningitis and peritonitis, on the contrary, all these elements remain normal, and in lupus they are slightly subnormal. In order to determine the value of this exaggeration of the chemistry of the respiration as a diagnostic and differentiating measure, Robin and Binet have studied the exchanges in the respiration in forty other affections. Their research has extended over seven years, and the results show that although there is a certain resemblance between the chemistry of the respiration of a few other affections and that of tuberculosis, yet they all differ in some point sufficiently to distinguish them. In a persisting pleurisy, for instance, in which tubercular infection seems almost certain from the symptoms and the course, if the exchanges of gases and the amount of oxygen absorbed by the tissues are not exaggerated, the idea of tuberculosis can be definitely excluded, and the complete recovery in time confirms the diagnosis. The affections in which the chemistry of respiration approximates most closely that of tuberculosis, are la grippe, simple pleurisy, exophthalmic goiter and diabetes. It seems from these investigations that the descendants of consumptives must be classified in two groups: Those in whom the respiratory exchanges are normal and those in whom they are exaggerated. The former escape tubercular infection, but the latter are predisposed to the disease. In arthritism and scrofula, on the contrary, the respiratory exchanges of gases are usually below normal, which suggests an explanation for the familiar antagonism between these affections and tuberculosis. If, by studying the chemistry of the respiration, we are able to recognize tuberculosis in its incipient stages and even the predisposition to it, then the predisposed soil can be artificially modified. The greed of the tissues for oxygen can be artificially supplied, and the oxygen provided with some combustible other than the tissues. These measures, supplemented by the "mineralization of the tissues," which Robin has been advocating as an important measure in the struggle against tuberculosis, advance the campaign against tuberculosis, he believes, into a new and most promising phase in which by modifying the functional and nutritional aberrations which are necessary for the development of the tubercle bacillus, we can transform the predisposed into a refractory soil. These peculiar modifications in the chemistry of the respiration in tuberculosis contradict all the current medical or popular ideas in regard to it. The typical characteristics are, as we have seen, in the modified respiratory capacity, the percentages of the gases exchanged in the exhaled air, the ventilation, the volume of carbon dioxid exhaled and the oxygen consumed or fastened by the tissues in a given time in proportion to the weight of the subject.

Gazette Medicale Belge (Liege), March 21.

The Sclerogenic Method of Treating Hemorrhoids. JULIE.—Instead of removing hemorrhoidal nodules with the thermocautery or bistoury, Julie, a French army surgeon, injects zinc chlorid. Three cases thus treated are described in detail. By the tenth to the fifteenth day there was not a trace of the large and distressing nodules left. He injects a half syringeful, more or less, in each nodule the size of a walnut. His formula is 50 cg. of zinc chlorid to 20 cg. of cocain hydrochlorate and 20 gm. of water. The circulation is so sluggish in hemorrhoidal tumors that he thinks there is no danger of embolism from the injections.

Journal de Medecine de Paris, March 3.

Influence of Medication on the Milk.—Houselot has recently presented a thesis on the subject of the drugs which pass from the nurse to the nursling. Atropin, digitalis, ergot and sodium salicylate pass into the milk, but in such minute quantities, he states, that they can be prescribed to the nurse without inconvenience. Mercury and potassium iodid are very uncertain in this respect, and in case of hereditary syphilis it is much better to administer them to the infant directly. Arsenic passes so readily into the milk that arsenical medication should never be given a nursing woman. Quinin also is found in the milk if ingested fasting. Consequently it should be administered at meals and the milk accumulated about three hours afterward should be artificially withdrawn and not given

to the infant. With these precautions quinin can be given with impunity to nursing women. Opium should be substituted by antipyrin, which does not pass into the milk like the former. A prescription much used in Paris to promote the secretion of milk is as follows: Aqueous extract of galega, 10 gm.; calcium hydrochlorophosphate, 10 gm.; tincture of fennel, 10 gm.; essence of cumin, 15 gtt.; syrup, 400 gm.; dose, four tablespoonfuls a day.

Presse Medicale (Paris), March 13.

The Diet in Hyperchlorhydria. G. LINOSSIER.—In mild cases of hyperchlorhydria or in the intervals of intermittent hyperchlorhydria, the diet should contain little nitrogenized substances, as the latter, and especially meat, stimulate the production of the gastric secretions to the maximum. But when the hyperchlorhydria is accompanied by distress and pain, then a nitrogenous diet is indicated, as albuminoid elements are readily digested, and although the gastric secretion may be stimulated, the hydrochloric acid combines with the elements of the food and very little remains uncombined. Eggs stimulate the secretions less than meat, and milk least of all. Milk also binds the hydrochloric acid most effectively. Fats have an inhibiting effect on the gastric secretions, and the prolonged use of considerable butter and cream, for instance, has a permanent effect in diminishing the hyperchlorhydria. In a case described by Strauss, a patient ingested 350 gm. of fats a day, and only 25 gm., or 7 per cent., could be discovered in the feces, and more than half of this was in the form of fatty acids or saponified.

Serums in Therapeutics. VIDAL.—With the exception of antidiphtheria serum, none of the serums have yet answered the expectations aroused by the premature application to man of laboratory experiences. None of them seems to act directly on the microbe nor on its toxins; their action is apparently limited to the cells of the organism which they assist in the struggle against the microbian enemy. It is a general tonic, rather than a specific action. Gillet recommends injecting antidiphtheria serum at once and in sufficient dose without waiting for the result of bacteriologic examination, except in very mild cases. Hallion states that injection of artificial serum can not be considered a rinsing-out of the blood and tissues as there is no parallelism between the quantity of the urine afterward and the specific gravity of the substances eliminated in it. The toxins of diphtheria at least, are not eliminated in the urine after injection of artificial serum. Lesions of the kidneys, heart, lungs, or arteries may contraindicate its use. Baraduc injects a saline solution from a syringe that holds three grams, with a weak faradic current passing through the fluid. By this combination a smaller amount of fluid answers the desired purpose. As several cases of tetanus have occurred in Reynier's service he had a preventive injection of antitetanus serum made on a young man before an operation for hernia. In spite of this, the tetanus developed the same as in the rest, although mild at present. Vlaeff's anticancer serum continues to produce good results in his hands, but others are skeptical.

March 23.

Immunity to Smallpox. J. COURMONT.—In an epidemic of 729 cases of smallpox at Lyons last year, the vaccin pustule and the variola developed simultaneously in 16 cases. In 24 the patients bore signs of numerous successful vaccinations, as much as six in fifty years in one patient. Three of these patients had had smallpox—ten, twenty or thirty-five years previously—and had each been successfully vaccinated two or three times. Courmont concludes that in some persons the immunity conferred is transient. Hence the greater the readiness of the response to vaccination, the more frequently one should be revaccinated. He advocates compulsory revaccination at 20 years of age. He noted that abortion or childbirth rendered the prognosis of smallpox much more serious. Only 8 survived out of 16 pregnant patients who were delivered. Five others left the hospital in good health before the termination of the pregnancy. None of the children were born with external evidences of infection, but 3 died in a few hours. Two survived without showing any signs of smallpox or vaccination. In the others, smallpox developed from the sixth to the seventh day and proved fatal.

Revue Mensuelle des Maladies de l'Enfance (Paris), March.

Alterations in Liver and Kidneys in Gastro-Enteritis. E. LESNÉ.—In acute cases of gastro-enteritis the liver and kidneys are attacked simultaneously by the toxins generated, and the liver yields after a period of hyperfunction. In subacute and chronic cases, the liver cells become gradually and progressively affected. As the liver fails to transform the poisons that reach it, they pass on with the products of the disintegration of the liver cells and are eliminated by the kidneys. This gradually entails degeneration of the renal parenchyma and allows but little urine to filter through. The urinary poisons are thus retained in the blood and affect in turn the liver and other tissues. The liver and kidneys have thus a reciprocal, injurious action on each other, which, with the superposed autointoxication, is the key to the syndrome characteristic of protracted gastro-enteritis in nurslings, and explains the slowness of recovery. Lesné succeeded in producing experimentally, by infection or intoxication with the colon bacillus, lesions in the kidneys and liver which closely resembled those observed in infants who had died from gastro-enteritis. If guinea-pigs, however, are fed with the intestinal contents from such cases, the animals become affected with a disease which closely resembles clinical gastro-enteritis, and presents the typical kidney and liver lesions. The pathogenesis of the disease is therefore probably complex, and the action of the colon bacillus is evidently re-enforced by other factors.

Semaine Medicale (Paris), March 13.

Pathogenesis and Treatment of Obesity. DEBOVE.—If the surplus of food ingested, over what is actually required to sustain the body, were not consumed by oxidation and other processes to a certain extent, the body would keep on increasing in size indefinitely. The fact that this does not occur in normal conditions suggests that there must be some regulating apparatus which presides over the destruction of substances ingested in excess, and moderates combustion during periods of fasting, to maintain the nutritional balance. This regulating apparatus must belong to the nervous system and consequently its abnormal functioning, which permits the development of obesity, is a disturbance in the nervous system. The treatment of obesity should be based on this conception. The will should be cultivated to substitute the missing automatic regulating nervous apparatus. The amount of food taken should be less than the actual needs of the organism. The food should be restricted to articles which satisfy hunger without supplying many calories, such as raw or cooked vegetables, fruits, milk, etc. The patient should not eat at the table with the family, and sanitarium treatment is very desirable at first. Debove does not restrict the amount of fluids ingested, neither does he advise physical exercise. He finds that much exercise is liable to have an unfavorable effect by inducing an extra appetite. Thyroid treatment benefits obesity only in cases of latent myxedema, and he has known instances of fatal aggravation of existing heart troubles from its use. He has been remarkably successful in the treatment of obesity by the method outlined above—an unconsciously insufficient diet and training of the will-power. One of his cases was described in THE JOURNAL, April 7, 1900, p. 870, and another typical case is reported in detail in this communication, in which the weight decreased from 235 to 178 pounds in less than five months, with restoration of health and virility. It is useless, he adds, to treat patients who do not really want to be cured.

March 20.

Echinococcus Cysts of the Liver in Children. BROCA.—Since 1892 Broca has operated on thirteen children to remove echinococcus cysts in the liver. From his experience he urgently warns against puncturing, either as a diagnostic or therapeutic measure. He remarks that every spherical tumor in the hypochondrium in children can be assumed to be a hydatid cyst. The hydatid fremitus is an inconstant sign. He noted it in one case which proved to have no daughter cysts and in which the sac was distended with fluid alone, and again in others packed with daughter cysts. An echinococcus cyst is probable when the liver is unusually large, uniform and slightly

uneven at one or two points, the subcutaneous veins over it gorged, and especially, in case of emaciation. Spontaneous suppuration of the cyst is rare in children. Extreme precautions must be taken in operating, to prevent the escape of a single drop of the fluid into the tissues. Cases are numerous in which the cyst has been grafted elsewhere from neglect of this precaution. Until last year he treated these patients by fastening the pocket to the abdominal wall, i. e., by marsupialization, and his little patients all recovered except two cases in which the cysts were disseminated so extensively that there was no hope of a successful termination. This method has many advantages but it requires three to six months for complete recovery, and consequently he has recently adopted capitonnage, and is much pleased with the results. His last patient was a girl of 13. The cyst was the size of a fetal head. The lining membrane shelled out in one piece after the cyst had been emptied and wiped dry with compresses. The cavity was closed with three catgut stitches in the fibrous membrane, and the cyst wall with a Lembert suture. The temperature ranged between 38 and 39 C. for some time afterward, although the recovery was otherwise undisturbed except for an occasional tenderness on pressure of the region and slight pain in the right shoulder. As these symptoms, although attenuated, had not entirely ceased by the end of four months, Broca re-opened the abdomen. Not a trace of the cyst was to be found. The aspect of the liver was normal and nothing pathologic could be discovered except a few very insignificant filaments of adhesions between the liver and the abdominal wall. These were detached and the child regained complete health in a few days, with no further disturbances. Bouglé has recently published a case in which two cysts were treated simultaneously by capitonnage with excellent results. Whatever the method of treatment followed, it is possible that another cyst may develop later, and require a second operation as occurred in one of Broca's earliest cases.

March 27.

Acquired Lesions of the Aorta in Children. MARFAN.—Lesions of the aortic orifice and of the aorta are extremely rare in children. Marfan has recently had three cases at one time in his service, and study of their characteristics and analysis of others on record, show that there are two kinds of chronic, acquired lesions of this nature, the rheumatic and the atheromatous type. There are four varieties of the first group: 1. Pure aortic insufficiency, which seems to create less disturbance in children than in adults. 2. Aortic insufficiency associated with aortitis. The latter may be limited to the valve or may involve the inner coat of the artery or even be accompanied by cylindrical dilatation, indicated by a double souffle at the base. Sternal pains may be experienced but without distress or irradiation. The most frequent symptom is suffocation or paroxysms resembling those of asthma. There may be sudden dyspnea, with pallor and vomiting, but the paroxysm passes away in a few seconds. There is no true angina pectoris before puberty. Hemiplegia and aphasia may also occur as symptoms of embolism in the brain. 3. The lesions of the aorta are accompanied by a lesion of the mitral orifice. This is comparatively frequent and almost always grave. It usually causes extreme dyspnea and asystolia. 4. The aortic lesions are accompanied by pericardial adhesion with recurring asystolia. The atheromatous type is rare. Marfan reviews the seven cases on record. They include a case of aneurysm of the abdominal aorta in a fetus and one of ossification of the temporal artery in a child of fifteen months. In Sannés' case, atheroma of the aorta and valves was found at the autopsy of a boy of 13½, with an incipient aneurysm and insufficiency of the semilunar valves. The only symptom observed in one case of pure, isolated atheromatous aortitis was a neuralgia of the phrenic nerve, but as puberty approaches, this tolerance will probably cease. The lesion may lead to an actual aneurysm or become complicated by fatal asystolia. The treatment in the rheumatic group should be a vigorous salicylic medication. In the well-compensated cases all kinds of physical or mental fatigue should be avoided, also too frequent or too abundant meals and ingestion of much fluid. The seashore and water cures and an altitude above 1200 feet should be forbidden. The cardiac erethism should be soothed with opium and the alkaline bromids, and no digitalis should be administered. In the cases with asystolia and pericardial adhesion on the other hand, digitalis and its substitutes should be administered during the phases of asthenia. In case of aortitis this treatment should be supplemented by the iodids and repeated revulsion of the preaortic region.

Berliner Klinische Wochenschrift, March 11.

Treatment of Epithelioma with Arsenious Acid. O. LASSAR.—The three patients whom Lassar reported in 1893 as cured of epithelioma of the face, by means of Asiatic pills, he now states have had no recurrence since. One is 74 years of age. He took 1000 pills in all, a total of one gram of arsenious acid. Recent photographs accompany the communication.

Prognosis of Carcinoma of the Pylorus After Gastro-Enterostomy. H. STRAUSS.—The average life of patients with carcinoma of the pylorus is six to nine months after palliative operation. In the case described the patient survived 3½ years and succumbed to pneumonia. He was a man of 35, and at the operation a carcinoma was found the size of a small apple, with numerous metastatic nodules. After antecolic gastro-enterostomy he was relieved from all disturbance for nearly two years. Vomiting then occurred occasionally, but not enough to interfere with his duties as hotel-keeper. Symptoms of stenosis of the pylorus had been noticed before the operation for 1½ years, and hydrochloric acid was found uncombined in the stomach contents, suggesting that the carcinoma had been derived from an ulcer. In carcinomata of this character Strauss has been impressed with the number of the metastatic nodules in young patients, the free occurrence of uncombined hydrochloric acid or the large amount in combination, and also by the excellent digestion in spite of the lack of free acid. Erythrodextrin is always present and there is no lactic acid fermentation, notwithstanding the extreme stagnation. His experience also confirms Hampeln's assertion that an effusion in the left pleura is an aid to the diagnosis of carcinoma of the stomach. Three of his patients were under 25; the records of the Pathologic Institute show that in 9.5 per cent. of the 245 cases of carcinoma of the stomach the patients were less than 36 years of age, and in 21.2 per cent. less than 41 years old. In 411 cases of carcinoma elsewhere than in the stomach, 5.8 per cent. were under 36 and 12.4 per cent. under 41. Other statistics that have been published confirm this relative frequency of gastric carcinoma in persons under 36.

Dermatologisches Centralblatt (Berlin), February.

Pruritus and Tuberculosis. S. BEHRMANN.—When general pruritus can not be referred to any other cause, it is reasonable to suspect that it may be a manifestation of tuberculosis, due to the elimination of the toxic metabolic products of the tubercle bacillus through the skin. Proceeding on this assumption Behrmann has administered creosote internally and externally in cases of general pruritus, even in the absence of other visible tubercular manifestations, and reports encouraging success from it. He also calls attention to the residence as a possible factor in pruritus either by infection from germ-laden walls or floors. He knows of a house in his practice in which the tenants of the first floor invariably became affected with pneumonia and many of them with tuberculosis. He is inclined to attribute epidemic icterus to similar house or barracks contagion, and suggests that the dwelling should be investigated in all cases of otherwise inexplicable and rebellious pruritus.

Mitteilungen a. d. Grenzgeb. d. Med. und Chir. (Jena), vii, 4 and 5.

Experiences with Empyema. G. PERTHES.—For several years a Bunsen water-faucet pump has been used at the Leipsic clinic in the aspiration of the fluid of an empyema, in connection with a manometer and receiving jar. Twenty-five out of 32 patients have been treated in this way and the lesion healed in an average of forty-eight days. Twelve were recent cases and no fistula developed, but the healing was not complete for seventy-eight days on an average. Pneumococci were found

in the pus in 6 and streptococci in 4 cases. The lung unfolded within a few days after the aspirating apparatus was applied, before the secretion had dried up. In diagnosing old cases, Perthes determines the size of a cavity by radiography or by measuring the amount of fluid it will hold. The only danger is in case of a fistulous opening into the bronchi. This can be surmised if the patient has expectorated a large amount of pus on separate occasions, or coughs when lying in a certain position. Blood in the sputa after thoracotomy also indicates a fistula. If coughing is induced when the cavity is filled with an aseptic fluid a fistula is probable and it is certain if a colored fluid is used and the stain is noticed in the sputa. Even in case of a fistula, if the inflow of fluid is arrested at the first coughing spell, Perthes does not consider the measure harmful. If the level of the fluid in the aspirating jar keeps falling, a fistula is also probable. It can be located by having the patient inhale cigarette smoke, and can be radiographed by passing a tube filled with mercury through it. Five of the old, chronic cases were completely cured, two much improved and another cured after a second operation for a recurrence. In one case the empyema dated from an abortion three months previously. The infection was due to the staphylococcus and the patient was cured in a month. In 4 of the 32 cases the lesion was evidently the result of embolism of the pulmonary artery. Pleuropulmonary fistulæ are not so rare, he thinks, as is generally accepted. A certain proportion are transient, as the fistula heals or becomes occluded by the pressure of the lung against the wall of the thorax. In one case an acute empyema persisted for seven months. The aspiration was continued for 243 days with two interruptions. The cavity was reduced in capacity from 2000 to 50 c.c. The general health remained good all the time, but whenever the aspiration was suspended, the lung retracted again.

Wiener Klinische Rundschau, March 10.

Carcinoma in Suprarenal Capsules without Symptoms. A. SCHITTENHELM.—There seems to be only one other case on record similar to the one described. An artisan, 55 years of age, had always been in good health until three months before his death. At the autopsy a medullary carcinoma was found in both suprarenal capsules, with metastases in numerous organs. There was no abnormal pigmentation of the skin, and no disturbances in the alimentary canal. The pulse was normal, and until five days before death, the cachexia and vague pains in the back, which had been noted for three months, were the only symptoms.

March 17.

Intoxication from Tin Chlorid in Stockings. A. JOLLES.—A young woman noticed disturbances in motility and sensibility in the lower extremities, simultaneously with yellow stains on her feet after wearing a pair of fine, yellow, silk stockings. A few weeks later more intense disturbances were noted, approximating ataxia, corresponding to the wearing of the stockings, which were found to be heavily impregnated with tin chlorid. The urine showed albumoses, serum albumin and globulin in considerable amounts, and gave the tin reaction for two months after the stockings had been worn. The intoxication with tin had evidently increased the destruction of the red and white corpuscles. Jolles warns that silk, especially in light shades, should not be worn next the skin, as it is frequently impregnated with 25 per cent. of its weight with the tin chlorid to increase the "body" of the silk. The patient in question has recovered her health except for certain hysteric symptoms which still persist.

Therapeutische Monatshefte (Berlin), March.

External Application of Salicylic Acid in Grippal Affections. L. BOURGET.—La grippe seems to have a predilection for the mucous membranes, similar to that of rheumatism for the serous membranes. Bourget has been very successful in treating rheumatism by the application of salicylic acid rubbed into the skin, and he now reports that the same method is equally applicable to the treatment of grippal affections. The liniment is rubbed into the chest and back, and then the patient is covered closely to the chin. The heat of the bed favors absorption and evaporation, and the patient is instructed to inhale the fumes occasionally. The salicylic acid appears in the urine in twenty to thirty minutes. The formula is: salicylic acid, 4 parts; methyl salicylate, 10; oil of eucalyptus and oil of nutmeg, each 5; oil of sage, 3; camphorated oil, 30; spirit of juniper, 120. He has been so successful with this treatment that he now applies it as a routine measure in all affections of the respiratory organs a few hours after the patient enters the hospital.

Importance of Carbon Dioxid in the Treatment of Tuberculosis. H. WEBER.—Fifty-two cases of advanced tuberculosis have been treated by Weber on a new principle, and the results have been so encouraging that he now describes it for the benefit of others. It is based on the principle that a tubercular process can not progress in the presence of much carbon dioxid, as there seems to be an antagonism between tuberculosis and the dioxid. Consequently if the formation of carbon dioxid in the organism can be multiplied, the tubercular process will be checked in its development. After numerous tests Weber found that levulose is a substance which materially enhances the production of carbon dioxid. He orders it in the daily dose of 50 to 100 gm. a day, which can be ingested for months without injury, in the form of an inexpensive syrup. In certain cases he supplements the levulose with a specially prepared fluid paraffin, which he calls "antiphthisicum," and injects 10 gr. once or twice a day. He affirms that in this principle of inducing an extra formation of carbon dioxid in the organism, we have a means of conquering tuberculosis as certain in its effects as salicylic acid is in rheumatism. Out of his 52 patients, 32 were cured, 14 much improved and 6 died.

Gazetta Degli Ospedali (Milan), March 24.

Round Ulcer of the Stomach and Hysteria. G. BIGI.—Round ulcer of the stomach is pre-eminently a dystrophic affection. Hysteria is a general pathologic process which is capable of producing trophic disturbances, multiple or localized in the skin or in an internal organ. Bigi describes a case in which he witnessed the development of a round ulcer in a person predisposed to hysteria. The hemorrhages that occur under the vasomotor influence of hysteria are liable to appear in the gastric mucosa as well as elsewhere. Such lesions on the skin have a tendency to necrobiosis and probably the same tendency exists in a gastric lesion. The gastric juice then interferes to maintain the lesion as a permanent ulcer. Consequently, when a hysteric subject exhibits evidences of gastric disturbance, pain, vomiting and hematesis, treatment is indicated that will prevent the transformation of the lesion into an ulcer.

Semana Medica (Buenos Ayres), February 21.

Tuberculosis in the Argentine Republic. E. R. CONI.—The deaths from tuberculosis have diminished from 12.2 per cent. between 1868 and 1878 to 10 per cent. during the last decade. Coni, who is chief of the National Board of Health, attributes this favorable showing in regard to tuberculosis to the mild, equable climate in the more populated portions, which resembles that of the shores of the Mediterranean; to the small number of inhabitants in proportion to the extent of the country, to the absence of tuberculosis among the native cattle and to the fact that as meat is so cheap it is the main article of diet among the poorer classes. The crossing of races in the republic, he adds, has originated a new race, exceptionally vigorous, whose development is favored by the conditions of climate, life and hygienic dwellings. Alcoholism is not so prevalent as in other countries in Europe and America.

New Patents.

Patents of interest to physicians, etc., March 19 and 26:

670,394. Vaginal syringe. Elizabeth C. Ashmead, Philadelphia, Pa.

669,976. Uterine drainage tube. James J. Bowker, Laotto, Ind.

670,199. Massage apparatus. Johannes Eckardt, Sr., Stuttgart, Germany.

670,372. Producing casein products. John A. Justs, Syracuse, N. Y.

670,237. Means for humidifying the air of rooms. Paul Kestner, Lille, France.

670,006. Electric exercising machine. Nelson H. Raymond, Buffalo, N. Y.
670,084. Inhaler. John B. Sloane, Detroit, Mich.
34,238. Design, inhaler. Elmore J. Worst, Ashland, Ohio.
670,530. Hernial truss support. Wm. F. Brownell, New London, Wis.
670,663. Combined hydrometer and syringe. Theodore D. Bunce, New York City.
670,706. Exercising machine. Emil R. Ernst, New York City.
670,494. Atomizer. Charles H. Guibor, Topeka, Kan.
670,878. Water bag. Daniel Hogan, New York City and C. W. Meinecke, Jersey City, N. J.
670,428. Suspensory bandage. James R. Jarrell, Smyrna, Del.
670,713. Antiseptic broom. Oscar S. Kulman, Savannah, Ga.
670,792. Soda fountain. Fisher H. Lippincott, Philadelphia, Pa.
670,793. Soda fountain. Fisher H. Lippincott, Philadelphia, Pa.
670,684. Artificial hand. Albert C. Mueller, Wausau, Wis.
670,814. Abdominal bandage. Emma A. Richmond, Medford, Mass.
670,688. Massage apparatus. Joseph A. Riviere, Paris, France.
670,545. Portable steam or vapor bath apparatus. Moses Rostovsky, San Francisco, Cal.
670,689. Waterproof casein and producing same. Albrecht Schmidt, Berlin, Germany.
34,275. Design, knee member for artificial legs. Geo. W. Farrier, Milwaukee, Wis.
34,274. Design, water-bag. Christian W. Meinecke, Jersey City, N. J.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., March 28 to April 3, 1901, inclusive:

Ira A. Allen, captain and asst.-surgeon, Vols., recently appointed, from duty at the Army and Navy General Hospital, Hot Springs, Ark., to San Francisco, Cal., en route to Manila, P. I., for service in the Division of the Philippines.

Aaron H. Appel, major and surgeon, U. S. A., from Jackson Barracks, La., to San Francisco, Cal., en route to the Division of the Philippines.

Guy G. Bailey, captain and asst.-surgeon, Vols., recently appointed and now in San Francisco, Cal., to duty in the Division of the Philippines.

Charles N. Barney, acting asst.-surgeon, member of a board at Fort Monroe, Va., to examine enlisted men for commissions.

William Bowen, major and surgeon, Vols., recently appointed and now in San Francisco, Cal., to proceed to Manila, P. I., for duty in the Division of the Philippines.

Frederick A. W. Conn, captain and asst.-surgeon, Vols., recently appointed, from Philadelphia, Pa., to the Division of the Philippines, via San Francisco, Cal.

George W. Daywalt, captain and asst.-surgeon, Vols., recently appointed, and now in San Francisco, Cal., to duty in the Division of the Philippines.

Henry C. Fisher, major and surgeon, Vols. (captain and asst.-surgeon, U. S. A.), from the Division of the Philippines to duty at Jackson Barracks, La.

Henry L. Gilchrist, lieutenant and asst.-surgeon, U. S. A., from the Division of the Philippines to San Francisco, Cal., reporting by telegraph, on his arrival, to the Adjutant-General of the Army for further orders.

Charles R. Gill, captain and asst.-surgeon, Vols., recently appointed, from Fort Wood to Fort Totten, N. Y., to accompany a battalion of engineers to Manila, P. I., via San Francisco, Cal., and for assignment in the Division of the Philippines.

Frederick Hadra, major and surgeon, Vols., recently appointed, and now in San Francisco, to proceed to Manila, P. I., for assignment.

Frederick M. Hartsock, lieutenant and asst.-surgeon, U. S. A., from Fort Warren, Mass., to San Francisco, Cal., en route to the Division of the Philippines.

Edward F. Horr, captain and asst.-surgeon, Vols., recently appointed, from Manzanillo, Cuba, as soon as his services can be spared from the Department of Cuba, to San Francisco, Cal., en route for service in the Division of the Philippines.

Francis J. Ives, major and surgeon, U. S. A., relieved from further duty with the United States forces in China to proceed to Fort Sheridan, Ill., for post duty.

Frederick C. Jackson, captain and asst.-surgeon, Vols., recently appointed, and now in San Francisco, Cal., to proceed to Manila, P. I., for duty in the Division of the Philippines.

Thomas W. Jackson, captain and asst.-surgeon, Vols., recently appointed and now in San Francisco, Cal., to proceed to Manila, P. I., for assignment.

N. M. James, acting asst.-surgeon, leave of absence from the Department of Cuba extended.

William F. James, captain and asst.-surgeon, Vols., recently appointed and now in San Francisco, Cal., to proceed to Manila, P. I., for assignment.

Henry Lippincott, lieut.-col., deputy surgeon-general, U. S. A., from Denver, Colo., to Governor's Island, N. Y., for duty as chief surgeon, Department of the East.

Paul H. Luddington, acting asst.-surgeon, from duty on the transport, *Kilpatrick*, to Omaha, Neb., for annulment of contract.

George W. Mathews, major and surgeon, Vols., (lieutenant and asst.-surgeon, U. S. A.), from the Division of the Philippines to duty at Fort Warren, Mass.

Edward B. Moseley, major and surgeon, U. S. A., former orders assigning him to duty at Fort Sheridan, Ill., revoked; on expiration of his present leave of absence he will proceed to Denver, Colo., for duty as chief surgeon, Department of the Colorado.

Edward L. Munson, captain and asst.-surgeon, U. S. A., from duty at Washington Barracks, D. C., to Buffalo, N. Y., to assume charge of the exhibit of the Medical Department of the Army at the Pan-American Exposition to be held there.

Robert M. O'Reilly, lieut.-col., deputy surgeon-general, U. S. A., member of a board at Fort Monroe, Va., to examine enlisted men candidates for commission as second lieutenants in the army.

Francis J. Pursell, captain and asst.-surgeon, Vols., recently appointed and now in San Francisco, Cal., to proceed to the Division of the Philippines for assignment.

Julius M. Wheate, captain and asst.-surgeon, Vols., recently appointed, to proceed, on expiration of his present leave of absence, to San Francisco, Cal., en route for service in the Division of the Philippines.

Francis A. Winter, major and surgeon, 37th U. S. Vol. Infantry (captain and asst.-surgeon, U. S. A.), from the Division of the Philippines to San Francisco, Cal., where he will report to the Adjutant-General of the Army for instructions.

W. Hoepfner Winterberg, captain and asst.-surgeon, Vols., recently appointed from Fort Mason to San Francisco, Cal., en route for assignment in the Division of the Philippines.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ended April 6, 1901:

Dr. A. E. Peck, appointed asst.-surgeon from March 24, 1901.

Medical Director W. K. Scofield, placed on retired list, April 28, 1901.

Surgeon G. Pickrell, granted sick leave for three months, from April 2.

Asst.-Surgeon E. M. Blackwell, detached from *Abarenda*, upon reporting of relief, and home to wait orders.

Asst.-Surgeon R. C. Marcour, detached from Havana Naval Station and ordered to *Abarenda* after temporary duty on *Philadelphia*, May 4.

Asst.-Surgeon E. Davis, granted sick leave for three months.

Medical Director G. F. Winslow, detached from Boston Navy Yard, April 18, and ordered home to wait orders.

Medical Director E. Bogert, retired, ordered to the Boston Navy Yard, April 18th.

P. A. Surgeon E. R. Stitt, commissioned Surgeon from June 7, 1900.

Pharmacist J. Cowan, detached from *Glacier* and ordered to the *Manila* and to additional duty at the Naval Hospital, Cavite.

Surgeon G. F. Stokes, detached from the *New Orleans* and ordered to the *Solace* upon her arrival on the Asiatic Station.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended April 6, 1901:

SMALLPOX—UNITED STATES AND INSULAR.

California: Los Angeles, March 16-23, 3 cases; San Francisco, March 16-23, 10 cases.
Delaware: Seaford, March 20, 53 cases.
District of Columbia: Washington, March 23-30, 8 cases.
Florida: Jacksonville, March 23-30, 7 cases.
Illinois: Chicago, March 23-30, 13 cases.
Indiana: Muncie, March 1-31, 23 cases.
Iowa: Clinton, March 23-30, 1 case.
Kansas: Wichita, March 23-30, 14 cases.
Kentucky: Lexington, March 23-30, 3 cases.
New Jersey: Jersey City, March 23-31, 5 cases.
New York: New York, March 23-30, 41 cases, 10 deaths.
Ohio: Ashtabula, March 23-30, 1 case; Cincinnati, March 22-29, 4 cases; Cleveland, March 23-30, 42 cases, 1 death.
Pennsylvania: March 23-30, McKeesport, 4 cases; Pittsburg, 2 cases, 1 death; Steelton, 3 cases.
Tennessee: March 23-30, Memphis, 24 cases; Nashville, 11 cases.
Utah: Salt Lake City, March 23-30, 33 cases, 2 deaths.
Louisiana: New Orleans, March 23-30, 13 cases, 2 deaths.
Maine: Portland, March 23-30, 1 case.
Massachusetts: Boston, March 23-30, 1 case; Springfield, March 16-23, 1 case.
Michigan: March 23-30, Bay City, 3 cases; Detroit, 4 cases; Grand Rapids, 1 case.
Minnesota: March 23-30, Minneapolis, 11 cases; Winona, 4 cases.
Nebraska: Omaha, March 23-30, 9 cases.
New Hampshire: Manchester, March 23-30, 3 cases.
West Virginia: Wheeling, March 23-30, 3 cases.
Wisconsin: Milwaukee, March 23-30, 2 cases.
Porto Rico: Ponce, March 18, 4 cases.

SMALLPOX—FOREIGN.

Austria: Prague, March 2-9, 7 cases.
Belgium: Ghent, March 8-16, 1 death.
Brazil: Rio de Janeiro, Feb. 1-15, 6 deaths.
China: Hongkong, Feb. 9-16, 1 case, 1 death.
France: Paris, March 8-16, 11 deaths; Rheims, March 3-10, 1 death.
Great Britain: England—London, March 14-21, 1 case; Southampton, March 8-16, 1 case. Scotland—Glasgow, March 16-22 24 deaths.
Greece: Athens, March 3-10, 4 cases, 1 death.
India: Bombay, Feb. 26-March 5, 7 deaths; Calcutta, Feb. 23-March 2, 113 deaths; Karachi, Feb. 24-March 3, 26 cases, 5 deaths; Madras, Feb. 23-March 1, 6 deaths.
Italy, Naples, March 13, general.
Mexico: Progreso, March 1-15, 20 cases.
Russia: Moscow, March 2-9, 11 cases, 3 deaths; St. Petersburg, March 9-16, 10 cases, 2 deaths; Warsaw, March 1-8, 3 deaths.
Spain: Malaga, March 1-15, 2 deaths; Valencia, March 1-14, 1 death.

YELLOW FEVER.

Brazil: Rio de Janeiro, Feb. 1-15, 22 deaths.

CHOLERA.

India: Bombay, Feb. 26-March 5, 13 deaths; Calcutta, Feb. 23-March 2, 24 deaths; Madras, Feb. 23-March 1, 4 deaths.

PLAGUE.

Brazil: Rio de Janeiro, Feb. 1-15, 5 cases 3 deaths.
China: Hongkong, Feb. 2-16, 5 cases, 5 deaths.
India: Bombay, Feb. 26-March 5, 1253 deaths; Calcutta, Feb. 23-March 2, 405 deaths; Karachi, Feb. 11-March 3, 113 cases, 82 deaths; Madras, Feb. 23-March 1, 1 death.